

University News

MONDAY, JULY 5, 1993

Rs. 5.00

Research in Educational Management



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SECRETARY

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Editor :
SUTINDER SINGH

Research in Educational Management Some Challenges

Jaya Indiresan*

It is said that management is both an art and a science. Educational Management appears to be more art than science. It is very different from management in other sectors because of the very nebulous nature of its constituents and configurations. It is difficult to quantify objectively the attributes of a good educational administrator. To hold a management position in the business sector or in civil services, people are carefully selected and prepared for discharging their responsibilities through training. But an educational administrator usually is an academic put in an administrative position on his/her seniority or academic excellence. Little or no concern for aptitude or competence is shown in selecting educational managers. Also hardly any effort is made to provide orientation or training to professionalise the educational administrators. They are left to grope their way through to either swim or sink. Those who manage to swim carry the institution with them while those who sink drag the institution also down with them. Thus, the challenge is to understand (a) what qualities make a good educational administrator; and (b) how to train a person to acquire such qualities.

Educational Context

There is no need to elaborate on the oft made point that the educational system has expanded enormously in the past four and half decades since independence. The number of schools, colleges and universities have multiplied and enrolment has also increased to meet the social demand for education. Yet, there is all round despair as far as the quality of the products turned out by majority of these institutions. The education system is turning out products which have neither set specifications nor any quality control. The blame for the poor quality of the products cannot be placed on the raw material, which is the student intake, for our students have shown that they can perform very well given the proper environment and support.

It is significant to note that given similar student cohort and similar resources some institutions have done an excellent job of turning out a set of quality students while other institutions have failed in this job. The difference in the quality is obviously due to the difference in the effective management of the inputs and resources available. Here is a challenge for researchers in educational management to bring out the critical success factors which contribute to the differences in the quality.

Concern for Quality

It is interesting to note that this concern for quality is not of recent origin. For example, the Indian University Commission was appointed in 1902

"To enquire into the condition and prospects of the universities established in British India; to consider and report upon any proposals which have been or may be made for improving their constitution and working; and to recommend such measures as may tend to elevate the standards of university teaching and to promote the advancement of learning".

**Senior Fellow and Head, Higher Education Unit, National Institute of Educational Planning and Administration, New Delhi - 110 016.*

This theme of concern for quality finds an important place in all the successive Education Commission reports. In 1966, the Kothari Commission reported :

“There is a general feeling in India that the situation of higher education is unsatisfactory and even alarming in some ways, that the average standards have been falling and that rapid expansion has resulted in lowering quality ... Many realise how serious are the actual conditions, academic and physical, that obtain in colleges and universities. Even those who are broadly aware of the situation fail to notice its poignancy because they have become used to such conditions”.

This repeated concern for quality highlights the pressing need to bring about qualitative changes in education. This repetitive concern also implies no satisfactory solutions have as yet been found. However, it would be erroneous to say that no notice has been taken of this poignant position. Various academic and structural innovations and reforms are being attempted continuously. In spite of this, the education system is not reaching anywhere near the expected quality. Here is a challenge for researchers in educational management to explain why the well-intentioned reforms and innovations have not produced the desired results.

Management of Educational Reforms and Innovations

As has been seen mere introduction of reforms and innovations have not yielded the desired results. There could be two possibilities. The reforms and innovations were unimplementable or sufficient care was not exercised in the implementation of these reforms and innovations which becomes yet another failure in management of education. The reasons for the limited success of the reforms and innovations can be broadly classified into four major categories, namely, leadership, environment, structure/process, and resource issues.

Leadership Issues

The selection and appointment of the right type of persons in leadership position is a crucial factor for the success of any organisation, especially when one wants to bring about changes in the system through innovations and reforms. Persons who are dynamic and outgoing, who set their own standards and priorities, who are willing to take risks and have an inner desire to produce results can perform wonders in spite of various limitations and constraints. On the other hand, persons who are there for reasons other than their own merit, would carry

out whatever directions are given and no more and this type of leadership obviously cannot produce the desired results.

Environmental Issues

— Too Many Masters

One of the major problems faced by our educational institutions is that they have too many masters who impose various limitations and constraints on their functioning. Education being a concurrent subject, the institutions have to conform to both the state government and the central government and quite often the directions from these two powerful agencies are in conflict resulting in the non-implementation of some good schemes. For example, the concept of Navodaya Vidyalaya has been rejected by the West Bengal and Tamil Nadu Governments on various ideological grounds. Similarly, the implementation of the scheme of autonomous colleges has made very little headway because the state governments have not enacted the required changes in their state government regulations.

— Clash of Interests

In addition to this dual control by state and central governments, many schemes have suffered because of clash of interests between the University Grants Commission and other statutory bodies controlling the various institutions.

— Political Interference

Political interference in the admission process, selection and transfer of teachers, tampering with examination results and even in the selection of textbooks have played havoc in the proper implementation of various schemes. For example, teachers and principals of autonomous colleges are transferred indiscriminately to affiliated colleges and vice-versa, hampering the consolidation of the implementation of this scheme. There are many such instances, but these examples would suffice to bring home the importance of this issue in the proper management of reforms and innovations.

Structural Issues

Closely linked to the environmental issues, certain structural issues emerge which again hamper the implementation of reforms and innovations. There is no clear demarcation of the responsibilities, power, jurisdiction and roles of the various statutory bodies within the system. This leads to conflict in the exercise of power of these various bodies leading to avoidable debates and delays. For example, the autonomous colleges have been

given the freedom to restructure their courses. Yet, they have to go through the various academic councils and boards of studies of the universities resulting in delays and frustration to the principals and teachers of the autonomous colleges. Eventually, the programme itself suffers.

Resource Related Issues

Many reforms and innovations have got bogged down because of resource related issues. There are two main forms of resources, the human and material. Programmes are launched with inadequate human resources or inappropriate human resources or improper utilisation of available human resources. Posts are sanctioned but not filled due to bureaucratic hurdles or procedural delays. Similar is the problem with material and financial resources. The funds could be inadequate, unutilised or improperly utilised. Where funds are sanctioned, there are delays in releasing the funds. The financial procedures are cumbersome, leading to leakages and other malpractices.

These are some areas of challenge for the researchers to examine how these factors can be rectified or streamlined so that the desired impact of the reforms and innovations can be realised.

Factors Affecting Management of Change

One of the objectives of management is development. The basic feature of all development is change. Hence, educational development necessarily means management of change. The management of change has not been very effective because the approach or process of management has been faulty. Some key issues in this faulty approach may be identified as follows :

Fragmented Vs Integrated Approach

The developmental needs are not paid enough attention in its totality and efforts have been in bits and pieces. Assistance is provided in one area without corresponding support in the related areas, making the effort wasteful. For example, assistance in procuring costly equipment for the laboratories without adequate laboratory space leads to non-utilisation of such equipment.

Conventional Vs. Radical Approach

Education is expected to promote change. But, we find the greatest resistance to change in the educational system. The system is so bogged down by convention that

any attempt or suggestion for a different approach is perceived to be radical and unacceptable.

Professional Vs Lay Approach

Development has its own technology. Strategic management techniques are being employed extensively in the business and corporate sector. But unfortunately, there is very limited, if any, professional approach in the management of educational institutions. There is hardly any effort made in institutional planning. The approach is mainly ad-hoc, piecemeal with little or no effort made to look at the basic issues. It is mainly crisis management without concern for long term solutions.

Critical Viable Inputs

For any developmental effort to be meaningful and produce results, it requires a critical viable size and a critical viable input of required resources both human and material. Quite often this is not made available making the intervention ineffective

Here is another challenge for researchers to find ways and means for making management of change more effective to produce the desired results

What Needs to be Done

We are good at critical analysis. While this analytical approach is necessary and essential, it is not sufficient to bring about changes. We need a synthesis of critical success factors to empower ourselves for better management. Most of our research has been concentrated on the input-output analysis. This is also essential but not sufficient. Given the same or similar input, quite often varied outputs have resulted. This can be attributed to the processes adopted. So, what we need urgently is to look at the processes that led to success. We need to study the processes, strategies adopted in the successful implementation of reforms and innovations. We need to study the factors facilitating and hindering the processes adopted in the successful management of change.

These are some of the challenges posed to educational researchers. There is a desperate search on, not only in our country but all over the world for alternate models of educational management. There is an imperative to foster some significant research in this so far neglected area of educational management which would eventually lead to a better managed educational system in the country.

University Autonomy and Declining Standards

A Case Study of Rajasthan

B.D. Tikkiwal*

The report of the Gajendragadkar Committee (1969-71) gives the functions of the university education as well as the definition of autonomy of the university in an operative way. According to the committee, there are the following four functions of university education :

- (i) Pursuit of excellence in knowledge and its dissemination by way of teaching etc.;
- (ii) Advancement of knowledge;
- (iii) Direct contribution to national development; and
- (iv) Giving intellectual and moral leadership to the community at large.

Various recommendations regarding the University Act, Statutes, Ordinances and the structure were made to ensure the autonomy of a university both internal and external so that it can meet the above obligations effectively.

The Committee emphasized the fact, that though the central and state governments have a right to lay down the rights and obligations of the universities, they should not interfere with the administration of its day-to-day life, both academic and non-academic in order to preserve external autonomy of the university.

Internal Autonomy

The Committee also spelt out what it meant by internal autonomy. It meant that the bossism of senior members including the Vice-Chancellors must be eradicated and the deliberations and debates in the various bodies pertaining to all matters falling within its purview must be free, fearless and objective. The internal autonomy is made possible by ensuring effective participation, in decision making at different levels of all the concerned members including the students. In the corporate complex of a university consisting of administrators, Deans of Faculties, Heads of Departments, teachers, non-teaching staff and students, in an ideal situation, there are persons in power and no party in opposition. Thus the ideal life in a university is very different from political life of the country in a democratic set up. This ideal life

alone can ensure fully the internal autonomy of a university.

That, both external and internal autonomy were compromised in the past long after the recommendations of the Gajendragadkar Committee is clear from my lead article on Governance of Universities in *University News* of January 16, 1978. That, this is still so, is clear from the recent events in the state of Rajasthan leading to the suspensions and forced resignations of the Vice-Chancellors of universities in the state and subsequent reaction to these on party lines. All these things are happening because we implemented the recommendations of the Committee haphazardly and half-heartedly.

One of the recommendations of the said committee was not to have any representation of MPs, MLAs and MLCs on the Syndicate of a university so as to free it from day to day political interference. We know this recommendation has not been complied with in many universities with all the consequences. Generally the politicians take short term view of things, whereas educational problems require long term solutions. Further, their association with such bodies tends to politicise even issues which should be treated non-politically. An example of this is quoted in my lead article where literacy campaign in a city was politicised because of this situation.

The role of the Vice-Chancellor is very important in safeguarding the external and internal autonomy of the concerned university. Therefore, there is need of fool proof modes of appointment of Vice-Chancellors of the universities. We should reconsider the modes of appointment of Vice-Chancellors in the universities as recommended by Gajendragadkar Committee and earlier by Kothari Commission (1964-66); as they have not proved fool proof against such appointments being political ones and in the process mediocre persons being appointed as Vice-Chancellors. As the universities have grown in number over the period and so is the availability of competent persons for Vice-Chancellorship, there is need to have an open system of appointment of Vice-Chancellors, on the lines of appointments of Professors in the universities, through a selection committee consisting mostly of senior academicians with considerable administrative experience. As in case of selection of Professors in the universities, the selection committee need not

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confine to persons who apply for the same. For bringing objectivity in the selection of such an important post; we should lay down necessary qualifications for the same. In the absence of these qualifications, mediocre persons have found their way in these positions as noted above. Further, many a time the senior and more competent persons are not even considered and junior persons, at the same time less competent, within the same university are appointed Vice-Chancellors, as the system of selection is a closed one too. The appointments of persons, who are less competent and happen to be junior in service too, as Vice-Chancellors result in unnecessary heart burning. It brings non-seriousness in the working of the universities and even groupism within the system which we want to avoid. It may be noted that such an open system of appointment of Vice-Chancellors does exist in developed countries. As regards the term of appointment, they should be appointed only for a non-renewable term of four to five years, as the prospects of getting a second term tempts them to keep away the potential rivals in senior professors of the university. This action results in developing an atmosphere of suspicion detrimental to the well being of the university. Since, in the present system, most of the appointments of Vice-Chancellors become political ones, it is natural that they are sought to be changed, if necessary through dubious means, when there is change in political administration of the state.

The Case of Rajasthan

The latest events of suspension of the Vice-Chancellor of University of Rajasthan and consequential events in the university have to be looked in view of the current practice. There is every thing in this drama from which many good things can emerge provided the whole matter is now referred to a tribunal or committee headed by a distinguished working or retired judge. After all we have many good things in the report of the Committee headed by a judge of eminence like Gajendragadkar. The tribunal or committee set up for the purpose should not only be asked to deal with the immediate matter but whole gamut of long standing issues which are adversely affecting the oldest university in the state.

Coming to the internal autonomy, the situation has worsened all the more. As a result, there remains hardly any work culture in most of the Indian universities. The groupism, mostly on political party lines, has become common. That this is so in the University of Rajasthan is clear from the fact that the said suspension of the Vice-Chancellor and the appointment of an acting Vice-Chancellor in the university has been either welcomed or opposed on more or less political affiliations of teachers and students; a thing which Gajendragadkar Committee sought to prevent on the university campuses.

A leading Hindi paper of the State has complained of the indifference of senior professors to the treatment meted out to the suspended Vice-Chancellor by the Chancellor of the State. But the reasons for the same are not far to seek. It is true that Gajendragadkar Committee wanted the bossism of senior professors over their immediate colleagues to go; but it also wanted their continuing effective role in the system. Prior to the report of the Gajendragadkar Committee, the autonomy of younger colleagues in a department was compromised, but after its implementation in a haphazard and cavalier manner, the senior colleagues are put aside or even harassed by their junior colleagues in the system of rotation adopted in the universities contrary to the recommendations of the Committee. Some examples of harassment etc. in this system are reported in my lead article.

The Gajendragadkar Committee has recommended a selection procedure in which only the persons with considerable experience of teaching and research and with organisational ability were to be appointed as Heads of Departments. But the universities could not adopt this selection procedure because of mistrust developed due to the political nature of appointments of Vice-Chancellors and due to the presence of MPs, MLAs and MLCs on the syndicate of the universities and consequential grouping on political lines. The universities preferred an automatic system of rotation, thereby weakening the internal working of the departments. The University of Rajasthan first started with automatic rotation of headship amongst the Professors, Readers and Lecturers of 10 years standing with or without any research experience, what to speak of organisational ability. In view of the events of the kind happening as reported in my lead article, this system of rotation in a department was later restricted to first four senior persons of the department. There are problems in this restricted system of automatic rotation too and it too needs to be changed suitably.

Declining Standards

The standards of university education in Indian universities are declining very fast. This is due to the fact that number of effective working days in the universities gets so small, mostly due to internal disturbances, that even the prescribed courses are not covered satisfactorily. Further, the teachers are reported to be non-serious about their teaching and students of their study. No administrative action is taken because of groupism on campuses of the universities. Instead, to maintain pass percentage in examinations, leniency in setting the question papers is observed and there is no strictness in valuation. Along with the lowering of standards of teaching in this manner, the standards of research are also going down. This is all due to the erosion of university

autonomy, both external and internal and not due to the lack of resources as is often made out. In fact, there appears to be high wastage in the system as some sporadic studies, carried out in the past, suggest. As a result of this high wastage in the system, not only students suffer, but teachers too do not get appropriate facilities for work like an up-to-date library, latest scientific equipment including computational facilities and secretarial services so necessary for discharging their duty efficiently. Such facilities to the teachers in the developed countries are quite normal.

For ensuring external autonomy, as per Committee's recommendations, the Governor of the State was to exercise, as visitor, only some supervisory powers and not interfere with day-to-day working of the universities. An educationist or an eminent person in public life was to be appointed as Chancellor of the state universities, instead of the Governor of the state. In spite of this recommendation, the old practice has continued. The general impression is that the Governors of the different states, in their capacity as Chancellors, do interfere in the working of the universities as and when the political need arises. Of course, there are exceptions to this; as some Governors have played a constructive role too. One of the important exceptions is that of Sardar Hukam Singh, former Governor of Rajasthan and a staunch congressman of his times, who made important suggestions to de-politicise the university campuses while addressing Inter-University Board of India and Ceylon on 10th February, 1968. He said *inter alia*

"The political parties should realise themselves that they are doing great harm in playing with this brittle material (meaning students on the university campuses)...

I have said above that the politicians should leave the students alone in their own game of plotting against their adversaries in order to overthrow them ultimately. I do not mean that the students should not study politics. They must keep themselves aware of what is happening in the country. They should do even more by free discussions, meetings and debates, to exchange views and form their own opinions about the programmes and policies being followed. They can even think out what they would do when their own time comes. But the students should not proceed to execute and implement such policies during their learning period "

He further added :

"Third source of politics entering the campus is

through the teachers themselves, and that is most harmful. The first two can be remedied if the teachers conscientiously concentrate on their functions and are competent to meet the challenges of the time."

In order to meet the deteriorating situation in the universities of Rajasthan, the state government, instead of working dispassionately on the sane and sound recommendations of the Gajendragadkar Committee, brought before the legislative assembly a common Act for universities in Rajasthan sometime in 1984 to make the Governor of the State all powerful. However, the assembly rightly did not pass the same due to intense opposition of the academic community.

State Council of Higher Education

While opposing the passing of the common Act then before the legislative assembly, a letter from Professor and Head of the University Department of Statistics at Jaipur was sent to the Governor, Shri O.P. Mehta in April, 1984 stating, amongst other things, as follows :

"Suited to our needs and experience, we can certainly convert the present coordination committee into a council for the Universities in Rajasthan with powers of the kind now sought to be entrusted to the Governor of the State as a common Chancellor of all Universities in Rajasthan (See Ch. II, Sec. 11.8, p. 13 of the proposed draft Act). This council can rightfully intervene in the decisions of the various bodies of the Universities of Rajasthan, which could be detrimental to the academic growth. Further, it can more effectively coordinate the activities of the Universities of Rajasthan than what is being done at present. May we benefit in this connection from the experience of the State Universities in USA such as in the states of New York and North Carolina. Some states there have common act for the Universities in their States.

"For effective working of the Council, it would be necessary to have a statistical cell attached to the office of the Council. The cell would be responsible for planning, collection and analysis of data on Higher Education. A person of high calibre and stature has to head the cell for its effective working."

It was really satisfying that such a proposal was included later on in the New Education Policy of 1986.

Already, there exist state councils of higher education in two southern states. If we here set up a truly autonomous state council with a distinguished education-

ist (or an eminent person in public life) as its head and equip the council with proper statistical machinery for providing data on education, it will go a long way in raising standards of higher education in the State.

Central Statistical Cell

It must be said that the response to the proposal made by the Professor and Head of the University Department of Statistics at Jaipur then was very positive as far as the then Governor himself was concerned. During discussions with the Professor he appreciated the proposal a great deal but expressed difficulty in implementing the first part of the same because of the then prevalent view in the government. Regarding the second part, he asked the then Vice-Chancellor of the University of Rajasthan at Jaipur to take necessary steps to set up a statistical cell for strengthening of database of higher education in Rajasthan. Somehow the university has not been able to act on this all these years in spite of the fact that it had the necessary technical capability for undertaking such a task. In the process, this university, itself, is the worst sufferer and the teaching in the university has deteriorated a good deal. A university, which was pioneer in examination reforms, now does not have even the recommended minimum of these reforms, whereas some other universities in the state are doing better as far as these reforms are concerned.

As of today, the setting up of Central Statistical Cell for providing database in Higher Education in Rajasthan is linked with the setting up of state council of higher education and separate small statistical cells in respective universities of the state under their planning and monitoring boards. These small statistical cells in respective universities, by themselves, will not be a position to do a proper job of strengthening educational database unless they work under the overall control, guidance and supervision of Central Statistical Cell, as they would lack necessary vision and technical know-how.

But such a central statistical cell is visualised at present only when the state council comes into being. The latter will require an amendment of the act which can be carried through in the legislative assembly only (at present it stands dissolved and new elections are to be arranged for the same) when there is necessary vision, understanding and political will in major political parties. Though, it should not be difficult to create such an atmosphere, it would necessarily take time and the delay thereby in setting up the Central statistical cell will further harm university education in the state beyond repair.

The teaching and research standards in the state of Rajasthan, as in others, are going down rapidly in absence of proper database for monitoring these activities. The sound corrective measures are not possible in the absence of proper database. There are no proper data also, unlike in the West, to solve various genuine problems of students and to provide them necessary advice on their choosing a particular career. As a result, we find students engaging on the university campuses in undesirable activities which disturb the academic calendars of the universities.

The need for such educational data in developing countries has been recently recognised even by UNESCO. It has initiated steps for developing sampling methods for collecting educational data at all levels of education right from primary school education to higher education in the universities. Fortunately, sampling is an area wherein the University Department of Statistics at Jaipur did commendable work and its work got internationally recognised long back. For providing some important educational data for management, the department developed an index for measuring teaching standards in the universities. This index can also be used for objective evaluation of teaching by a particular teacher over a period. Thus, a teacher can be rewarded or punished in the system based on such an objective evaluation. This university department also developed successfully the best measures, amongst those available in the country or outside, to quantify three different types of wastages, thereby measuring the economic efficiency in running the university administration. The failure of the University of Rajasthan in not utilising the technical capability of its own department is difficult to explain.

In view of what is said above, we should act, without delay, on setting up of central statistical cell with its branches in different state universities, irrespective of setting up of autonomous state council of higher education, as originally thought of by the then Governor, Shri O.P. Mehra long back in 1984. This should help restore internal autonomy of the universities to a great extent and thereby elevate standards of university education. Such a cell should be directly responsible at present to the Chancellor of the State.

However, the ultimate thing to do in Rajasthan is to set up a truly autonomous state council as suggested earlier. The central statistical cell so developed can then be attached to this state council. When this is done, such a state council can become an ideal state council far more effective than those existing in other states of India, as the latter do not have proper statistical machinery to provide necessary database for decision making.

Writing for Academic Communication

Interactive Process Approach

Mitali De Sarkar*
R.K. Singh**

Introduction

Teaching writing as a process of communication within an ESP framework at the B.Tech level has been one of our major concerns at the Indian School of Mines. Like others in the language teaching profession, we recognize that it is by their ability to write that students succeed or fail in the educational system and so, if as teachers we could help them to write better, we help them to success within the educational system (Thornton 1980).

We have been interested in helping our students to perform academically, and later professionally, with the linguistic ability they already possess; we have been keen to offer a relevant and effective help — relevant to their own academic needs, and effective in promoting learning.

We have been looking for an appropriate method, building upon the exposure given to students in the EST courses earlier, which could make them aware of the way writers write in a technical context; which could emphasize both the discoursal and cognitive aspects of writing; which could make students understand (i) how to generate ideas, and (ii) how to compose these ideas into a written structure adapted to the needs of the reader and the goals of the writer.

Like practitioners elsewhere, we too have sought for an approach, which could help students pursue purposeful writing with an awareness of the way ideas are developed, shaped and examined critically with an audience in mind (Chan 1986). Viewing writing as an act of communication, we have also tried to add a sense of discovery in learning to write academically, integrating certain contributing skills and tasks. Our emphasis has been to encompass writer, reader, and text — the essentials of the communicative triangle — and thus become truly interactive and communicative (Ann Raimes 1987).

In this paper we present a critique of the method for communicative teaching of writing with interactional feedback tried out at Indian School of Mines, Dhanbad.

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We describe our experiences with a questionnaire developed as part of the interactive process model followed to teach academic written communication, checking certain specific points of composition as also collecting feedback for reviewing and revising. The questionnaire serves both as a test and an instrument for motivating students towards apprehending various aspects of writing in science and technology which takes place not in a vacuum but in a concrete situation, involving student/student comments and informed judgements on appropriacy. Our experiment explores certain possibilities despite the in-built constraints of the situation just as it reveals, among other things, students' competence in tackling the structure of specified genres of writing, both short and long, in S & T contexts. The approach has generated a mass of data which we hope to analyse and report in a follow up paper.

Students' Background

The Indian School of Mines (ISM) is a technical institution with 'deemed to be a university' status under the UGC Act. It admits students to various B.Tech and M.Sc. Tech programmes after a countrywide entrance examination. Though they come from varying language backgrounds they are expected to have a reasonable grounding in the English language.

Following the adoption of the new syllabus about a decade ago for teaching ESP in B.Tech and M.Sc.Tech levels (Singh 1989), the students at ISM have been getting compulsory instructions and practice in EST in the First semester of B.Tech. (They include a group of 10-15 students of SC/ST community who additionally undergo a 2-semester propaedeutical course in EST communication skills developed every year). Thus they are ready for advanced training in academic/professional communication by the time they reach the second year of their studies.

As reported elsewhere (Singh 1990) the students are already familiar with the nuances of technical communication. They have already experienced how the 'content' of science and engineering is given linguistic expression: how language is used to *receive* and *interpret* written and graphic information; how it is used, for example, to define, describe, classify, explain, hypothesise, generalise, conclude, compare or contrast; how thought-connec-

tools are used; how notes are taken from a printed or spoken text; in short, how scientific discourse is organized, using both verbal and non-verbal information.

Academic Communication Teaching

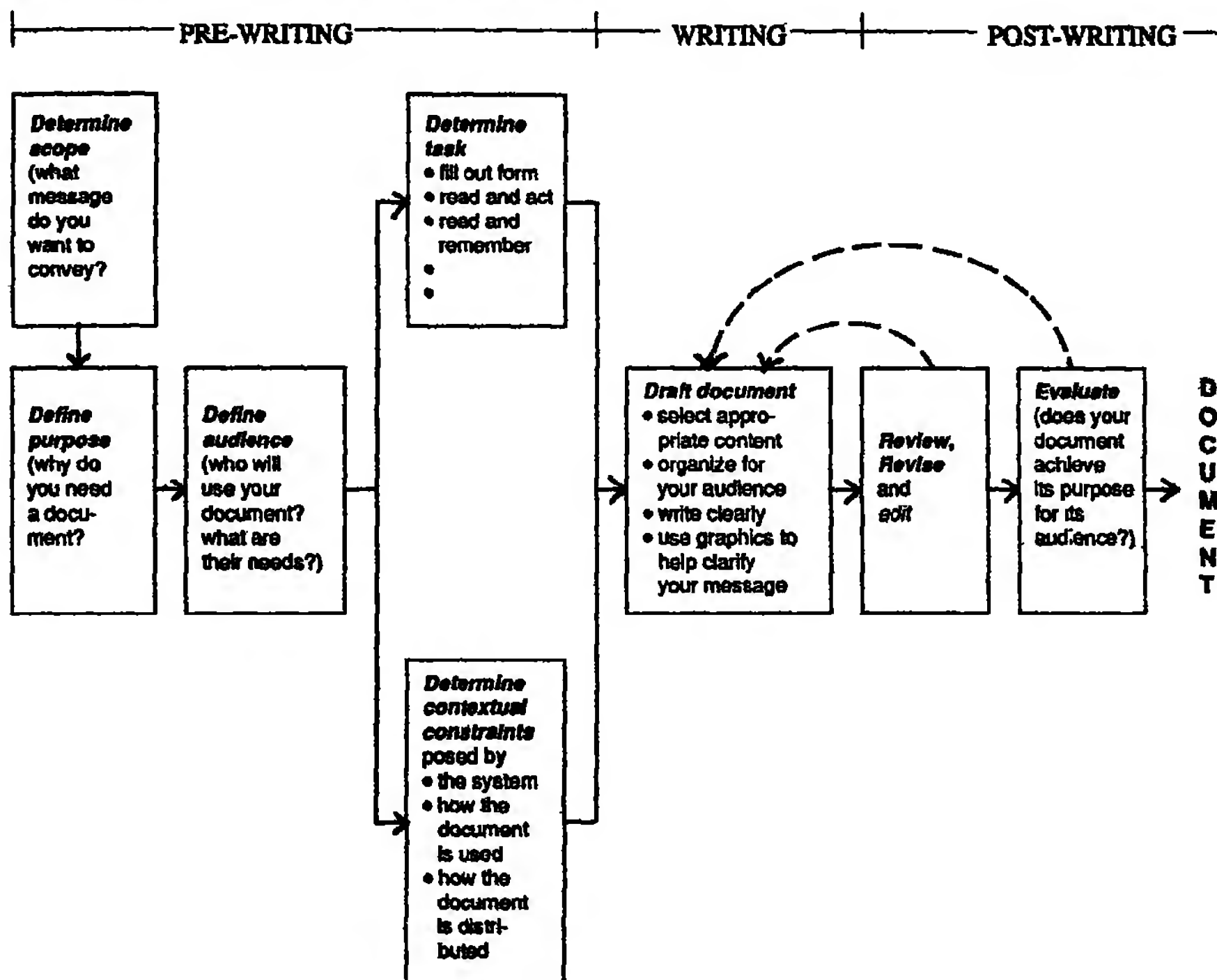
After having a semester's exposure to EST in general, the students get another opportunity to learn and refine such academic skills as various types of note writing, outlining, paraphrasing, summarising, abstracting, referencing, etc. preparatory to writing an academic article, research or seminar paper, and professional letter.

We believe writing of each scientific and technical document or report is linked to research process and so, an ESP course in written communication must provide for the "inter-relationship between the process of research and that of writing" to be relevant to students at higher level (Ramani 1988). With a view to sensitizing

them to the *process* of academic research and writing, making them aware of the 'how' of technical discourse, a syllabus for teaching academic and professional communication for students of fourth semester B. Tech was drawn up in 1988 (Appendix 'A') and it continues to be followed.

The Process Model

One of the characteristics of the course is its emphasis on 'performance' at three levels: Pre-writing, writing, and post-writing (Singh 1988). Like others, we too see advantage in teaching writing (or Report Writing) as a three-stage process (Murray 1978) with possibilities for intervening both at the pre-writing and writing stages, and re-writing as a vital stage to realise in full how a written document is arrived at (Hamp-Lyons and Heasley 1987).



Adapted from *Simply Stated*, No. 18, July 1981

Courtesy . American Institute for Research, Washington, DC.

Students *plan* to write with an awareness of 'purpose' and 'audience' and need to communicate meaning appropriately just as they collect relevant information from library sources before trying to write their composition on an assigned topic. They already know that professional or academic writing is a way of *writing* rather than writing on this or that subject. It is essentially a complex function of three kinds of competence : (i) Technical or subject competence; (ii) Logical or organisational competence, and (iii) Linguistic competence (Singh and Chacko 1986) and their draft must demonstrate these abilities. They must show that they can communicate their message (professional knowledge) objectively, logically and unambiguously within a rhetorically suitable format, employing the linguistic and organisational strategies necessary to achieve a pre-determined purpose.

After completing the draft essay on an assigned topic within 3/4 weeks, each student submits it to the teacher for award of marks. Then, after about 15 to 20 days needed to evaluate all the scripts, the teacher distributes the draft to students alongwith the questionnaire-cum-checklist in such a way that no one in a group gets his/her own script for critical reading and comments. Within a week after that, each one hands in both the draft essay and feedback sheet along with additional observations, if any, for the teacher's evaluation and recording of marks. In the third stage of the process, the writer of the first draft receives his/her own script and the fellow-student's feedback to review and revise the draft-writing, incorporating appropriate suggestions/comments, besides making grammatical, syntactical, organisational and other changes, wherever necessary. Each one also cross-checks bibliographical references, if any, before re-submitting the essay for the teacher's evaluation.

Interactional Feedback

We believe student/student interaction (or peer interaction) in the classroom is an important concept and can be utilised successfully in improving students' written communication. In fact, interaction is implicit in communicative teaching and an interactive approach to develop communication skills can facilitate student centred learning by fostering participative activity peer support and peer respect. It can ensure students' involvement (both individually and collectively) throughout with awareness of conventions and niceties of academic writing.

This led us to develop an instrument in the form of a questionnaire-cum-checklist first in October 1988 and

then in December 1989 (Appendix B). We introduced it as an essential input in writing procedure to help students become their own editor with a sense of effectiveness of their discourse. The questionnaire, *inter alia*, integrates a group of related activities besides aiming at peer suggestion and peer correction, testing students' own understanding, and application of mind.

Certain exercises like identifying the main ideas and outlining, logical organisation of ideas in a linear form, appropriate beginning, middle and end with use of non-verbal information (graphs, charts, tables, diagrams, etc.), and use of appropriate headings and sub-headings, organisation of references and bibliographical information, identifying grammatical lapses, etc. are inbuilt in the questionnaire for practice and evaluation of the written piece.

Students are prepared for writing for academic purpose by reading and writing the texts composed by 'in-group' individuals. For example, a Petroleum Engg. student writes the draft which is read, commented upon and/or evaluated by another Petroleum Engineering student. In order to perform an able critical evaluation of a piece, the students recall and judge the essay on the lines instructions on writing are given during pre-writing stage.

Initially student/student reading and evaluation had revealed that *too many* changes (unnecessary revisions) and the *wrong* kind of changes (focussing on very minor points or at the cost of something significant) are suggested, for whatsoever reasons, and therefore, we thought it proper that student-writers should have the freedom to accept or reject a suggestion for improvement on its merits or relevance. They are instructed in lecture classes to critically examine the feedback they receive from their classmates and use only such suggestions which are convincing for improving their draft. They are, however, cautioned against neglecting coherence and accuracy in their re-written draft.

If one is able to recognise that a sentence or paragraph in a draft needs changing or improvement, one should be able to zero in on the locus of the problem and suggest an acceptable revision. Such a practice, we believe, should help develop self-confidence and internalise the process of writing and editing a draft. In other words, students at tertiary level should become aware of a procedure of self-revision. Besides seeing themselves as writers they also need to be encouraged to see themselves as editors, asking the question, 'how to improve a text, if it needs improvement'.

We are aware of the students' cognitive problems, the problem of expression, and the problem of motivation when we explain to them or advise them on the process of writing both before and during the task. But we do not discuss the contents of their composition in the class even as we suggest such topics which are generally technical and require reading professional journals, exchanging notes, and discussion among themselves or with technical subject teachers in order to develop the topic properly. There is minimum input from the English teachers as far as content (of subject or technical competence mentioned earlier) is concerned even if they inform students about the possible form and style of the composition. They (teachers) reserve their judgement on the first draft, feedback questionnaire and the rewritten draft till the end. Of course, they award marks to each script at each stage but reveal them only at the end of the semester. An interesting aside : it makes a fruitful study to compare the ratings of the first draft by students and the teacher.

With the exercises between 'writing' and 'post-writing' stages through the questionnaire, we make students re-think and re-do the task with motivation and confidence just as we try to create awareness about the essential features of the process of academic composition. They experience and practise certain research and study skills and critically examine each other's writing with 'what' and 'how' of written communication. Besides practising skills such as outlining, paraphrasing, summarising, referencing, etc. they learn to focus on larger text structures (inter-sentence cohesion, coherence of argument, conventions of specialist discipline, consistency in formality and technicality of the language), rhetorical conventions, grammar, style and layout. They try to develop a sense of *style* in composition and experience how to revise and edit their texts. The process helps to raise the level of confidence in their judgement and sensitivity to readership besides refining their own attempt at writing.

Additionally, since we have noticed a high degree of plagiarism in their writing (c.f. J E. Abraham quoted in Braine 1989) it helps to provide in the questionnaire-cum-checklist items on outlining, paraphrasing and summarising of a part of the text read, and the quality of the beginning, the middle and the end.

Even if in a semester there are at best only two opportunities for writing (or re-writing) a full-length essay with some amount of preparation and critical feedback, students do develop certain cognitive and analytic abilities that should help them in their future professional writing assignments such as term papers or project reports in the next semesters.

Some Constraints

1. In spite of good possibilities to contain *linguistic* failure in learning or teaching to write in general, and organising meanings in a composition in particular, certain serious constraints have also been experienced in following the Interactive feedback approach as discussed above. The English teachers, hardly one or two in ISM, have to deal with a large class consisting of about 60 to 65 students in Mining Engg., 30 to 35 students in Petroleum Engineering, 15 to 20 students in Mining Machinery, and 8 to 10 students in Mineral Engineering -- all mixed and divided into two or three sections. The class size demands practising a sort of general EST, howsoever self-contradictory it may appear, and the teacher is obliged to explore from various approaches, within the 'specified purposes' teaching, a possible approach which can help develop certain skills, or, at best, sensitize students to the skills needed to be refined.

Learning to write with a specific purpose and audience in mind is advantageous in a group of students with similar needs, interests and goal. Students know they are all writing not for the English teacher (whose technical or subject competence is poor) or for the technical or subject teacher (whose sense of language, organization and style is poor) but for an equally informed and competent group of classmates, their peers, whose critique is significant for improving their draft for possible acceptance professionally "beyond the classroom". The technique as tried out with awareness of specific problem areas and a mental readiness for making desirable changes in a composition later is a motivating enough situation.

2. Time factor is another major hindrance in successful operation of the method : A semester provides hardly 25 to 28 hrs. of teaching time at the rate of two hours per week which is simply not sufficient to practise satisfactorily written communication skills. Hence the moderate objective to make students aware of the process and the approach that may ultimately lead to good writing in the future assignments that are given to them by respective departments.

Though it is also possible to provide for oral presentation of the draft essay in a group or individually, we have not been able to try it out so far due to time constraint.

3. We agree the success of an approach can be assessed by the rate to positive changes in students' performance. We acknowledge that the interactional feedback process approach being a slow process, both in execution and evaluation, improvement in writing skills

can be noticed somewhere in the future when students are required to write term papers/seminar papers (in the V and VI semesters) and project reports (in the VII and VIII semesters) and if the subject teachers are also demanding. On the basis of our observation we can presume that the awareness created in the EST classes should help students perform better even though we have not undertaken a systematic study to monitor the actual results of their written performance later.

4. It is also a serious constraint to motivate a large number of unwilling students, particularly of Mining Engg. group, to learn or make serious effort to develop their writing skills. It is hard enough to uncoil the students who think that they have enough knowledge to write well, and the situation is aggravated when the professional subject teachers are either themselves not good in written communication or are not demanding good performance from their students (Singh 1990).

Conclusion

Despite the constraints we have experienced, the interactive process approach enables students not only to introspect about their own problems in writing but also to handle scientific and technical discourse effectively. It engenders an awareness to apply metatextual, textual and rhetorical techniques to develop and design a subject-specific composition in an advanced EST context. It prepares serious students to visually experience their plan take a concrete shape just as they feel the structure of their arguments in the composition as they write with a 'skeleton' of ideas (notes) that serve as a cognitive management strategy.

Our approach makes the unwilling students to write and recall various aspects of writing discussed in the class and virtually forces them to go through various books and journals to be able to write on the assigned topic. In other words, it integrates library and reading skills besides developing such analytical and critical abilities that help to improve a written draft through the questionnaire-cum-checklist for feedback, positive reactions, questions and suggestions (about the technical content, organisation of the subject matter, and linguistic strategy), any distracting grammatical or vocabulary problems, etc. Students do benefit from peer evaluation, as we have found a good number of them enjoy making use of the comments made by their classmates to revise their writings and reject irrelevant comments or faulty corrections suggested.

We have noticed a perceptible change in their attitude towards writing — more positive and less frustrating. Our approach ensures increased interaction among students of the same group, and sometimes between the teacher and the students, throughout the writing process. They are better aware of their drawbacks and excellence of written communication.

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**DEPTT. OF HUMANITIES & SOCIAL SCIENCES
INDIAN SCHOOL OF MINES
DHANBAD-826004**

**SYLLABUS : IV SEMESTER B.TECH.
ENGLISH FOR PROFESSIONAL COMMUNICATION**

**L T P
2 0 0 (S)**

The aim is to enable students to communicate effectively in English in specialist academic and professional contexts.

1. To interpret use and produce (a) written, and (b) graphic information for academic and professional purposes.
2. To participate in academic discussions and seminars, etc.
3. To have the ability to express appropriately, in written form, information extracted from source materials related to specific fields of study :
Note making; Outlining; Precis Writing; Abstracting; Summarising; Paraphrasing; Report and Thesis Writing (with an awareness of technical discourse and its characteristics); Preparing References and Bibliography; Professional letter writing; Seminar Presentation and participation in discussions, conferences and interviews; and Writing Exam answers.
4. To have the ability to communicate orally in academic, professional and social situations; Interaction with teachers/colleagues in formal and informal situations.

It is also envisaged that part of the syllabus time will be devoted to English for social purposes.

Appendix 'B'

**DEPTT. OF HUMANITIES & SOCIAL SCIENCES
INDIAN SCHOOL OF MINES
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DECEMBER 1989

A Questionnaire-cum-Checklist for review/revision of essays :

Devised by Dr. R.K. Singh

Read the essay to answer the following :

- (1) What was the writer's main contention/point/idea?

- (2) What was the main idea in the first paragraph? Please be brief.
(a) _____
(b) Was the main idea appropriately placed in the paragraph?
Yes/No/Somewhat
- (3) Make an outline of the writer's central ideas in the essay :
(a) _____
(b) Do you think the writer's reasoning was sound and logically presented?
Yes/No/Somewhat
- (c) Was the ordering of information within (i) various paragraphs, and (ii) within the whole essay appropriate?
Yes/No/Somewhat
- (4) What do you think was the writer's purpose, that is, what effect was he/she trying to have on you?
—to inform you about _____
—for what purpose? _____

- to amuse you about _____
- to convince you to change your thinking about _____
- to make you feel that _____
- other _____
- Explain _____

(5) Was the main idea/idea development in terms of the topic clear to you?

Yes/No/Somewhat

(6) Do you think the essay was written with a preparation/planning in advance?

Yes/No/Somewhat

(7) Do you think the writer communicated ideas fairly well, but left out some questions/points/ideas :

Yes/No/Somewhat

(8) Do you think some points of the writer didn't seem to fit with overall topic/main idea :

Yes/No/Somewhat

—If you answer 'yes', underline/box the sentences (in the writer's draft) that are not logically fitting; OR suggest those points in brief :

(9) Did you find some ideas disjointed and/or hard to follow?

Yes/No/Somewhat

(10) Did the essay have the effect on you that you think the writer intended?

Yes/No/Somewhat, but needs work

—If you answer 'yes', please note on the draft places you think the writer has done a good job in achieving his/her purpose.

—If you answer 'no', or 'needs work', please offer suggestions (on a separate sheet) about how the writer could strengthen the piece.

(11) Did the author use headings/sub-headings in the idea development?

Yes/No

—If you answer 'yes', were the headings correctly placed/worded?

Yes/No

—If you answer 'No', mark the places in the draft where headings/sub-heading could be used. Also, suggest such headings.

(12) Were there enough details and examples to support the main ideas?

Yes/No

—If 'no', could you suggest any supporting points/ideas the writer might use?

(13) Was the idea arrangement (introduction, conclusion, title, headings, sub-headings, graph/charts, etc.) appealing?

Yes/No/Somewhat, but needs work

—If you answer 'no/needs work', make your suggestions :

(14) Were there any irrelevant points/ideas that could be deleted to make the essay better?

Yes/No

—If yes, please indicate them on the draft.

(15) Was the meaning of each sentence clear and correct?

Yes/No

—If 'no', please mark the 'incorrect/not clear' sentences on the draft.

(16) Was there any use of literary/flewdy expression?

—If 'yes', identify such expressions on the draft.

(17) Was the style of presentation appropriate and appealing?

Yes/No/Somewhat, but needs work

—If your answer is 'no/needs work', please make your suggestions :

(18) Were there any grammatical distractions/problems?

Yes/No

—If 'yes', please mark them on the draft.

(19) Were there any spelling and punctuation errors?

Yes/No

—If 'yes', please mark them on the draft.

(20) Were there any sentence fragments and Informal Expressions?

Yes/No

—If 'yes', please mark them on the draft.

(21) Did the author use 'References' appropriately?

Yes/No/Not needed

—If 'no', please suggest the correct 'form' of Bibliographic arrangement.

(22) Specific Problem Areas Checklist :

(Please put a Corss-mark, 'X')

These are the areas

where your paper is

Weak

Average

Strong

(a) Use of Examples to support your opinion :

(b) Use of cohesive devices (the ideas are related) :

(c) Use of formal/academic expressions :

(d) Use of transition words

(a) within paragraphs :

(b) between paragraphs :

(e) Organization (there is a logical order of ideas) :

(f) Use of Tables, charts, diagrams :

(g) Introductory Paragraph :

(h) Concluding Paragraph :

(i) Bibliographical arrangement :

(j) Word Choice/idioms/distractions/Problems :

(k) Grammar distractions/Problems :

(23) Your rating of the essay : Excellent/Very good/Good/Fair

Your Name :

Adm. No. :

Education for Character-Building

K. Venkata Reddy*

It is interesting to note that character-building was given a prominent place in the scheme of education in ancient India. It was recognised by our ancient educators as the immediate aim of education. For, they observed that without character no one could utilize in life any knowledge that might have been imparted to him. Moreover, they found that even to qualify any one for acquiring knowledge of any kind, a preliminary training of the will, to a certain extent, was a necessity. Thus, the mind as the main-spring of all actions drew the devoted attention of our early educationists more than anything else. And, they have left for us a precious lore about mental training which we can ill afford to ignore.

In the light of our ancient teaching, we should attach more importance to character-building than to the stuffing of information in the pupil's brain which seems to be the sole concern of the educational institutions of our country at present. Character-building, requires that pupils should be trained to feel for others, and their love should be gently led away from their little self to higher and higher spheres — family, neighbours, community, country and humanity. This will help them to be really noble in life and heroic in their deeds. Such a character-building could be achieved only through strengthening the will and chastening the heart of the student.

For strengthening the will, systematic practices of concentration and self-control must be provided for in the educational system. It should, however, be remembered that examples, and not mere oral instructions, are required of the teacher. Boys and girls should be made to practise occasional fasting and silence. Struggle against instinctive inertia for maintaining a high standard of active, methodical and well-regulated life will also contribute a good deal towards developing the will-power.

Besides strengthening the will, it is essential to give it a proper direction. And, for this, the heart of the student has to be chastened and inspired with noble sentiments. While love for flesh and fame determines the will — path of the ordinary man of the world, love for others, community, nation and humanity directs the will of noble souls. So, pupils should be made conscious of their environ-

ment so as to feel that their education is meant not for the good of themselves alone, but also for the good of humanity at large.

For this, the first thing necessary is to instil into the students faith in their country and their people. A proper presentation of history which may introduce students to the glorious achievements of their forefathers will certainly rouse their faith and admiration. They should be made to see for themselves in the museums and art galleries or through pictures the characteristic beauty of Indian painting, sculpture and architecture and they should also be made familiar with the appreciatory remarks of modern connoisseurs. Then, the students should be made to feel the grandeur of their early literature as well, especially of the two magnificent epics. They need also feel proud of the contributions of ancient India to political, economic and sociological sciences. All these will awaken faith in the country and love for the people.

Every effort should be made to deepen the love thus awakened by training students to serve the people. They should be provided with ample opportunities to participate in various nation-building activities. Holidays as well as winter and summer vacations should be made use of to take students to rural areas for social service camps so that they may be exposed to the stark realities of life. They will develop sympathy for the poor and down-trodden. They will also acquire the dignity of labour. Above all, they will be made to realise the paramount significance of the idea, that service to the poor and needy is the real service to God.

Besides love of the country and service to the poor, development of the aesthetic sense is a mighty agent for chastening the heart of the student. Love for the beautiful is already planted in man. This has to be drawn out by making the pupils feel and appreciate the beauties of Nature. They are to be helped further to take delight in artistic expressions of the beautiful through poetry, music, painting or sculpture. Thus, they should be encouraged and helped to express their own refined ideas and emotions through their own artistic productions. Regular lessons in drawing, painting, modelling, poetry and music go a long way to refine their sensibilities and cultivate their feeling which are the hallmarks of character-building.

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The Changing Times

"Just two or three years ago we used to get agitated when World Bank and others used to lay conditionalities. Today it is the order of the day. The interferences don't stop on the water edges or the borders of Himalayas. The Berlin Wall has collapsed. The iron wall is no longer there. The Chinese Wall is meaningless. India's Khadi Curtain can not hold back. The entry of foreign influence and goods into your country is the order of the day". Thus observed Dr. Abid Hussain, former Member, Planning Commission and Ambassador to USA, while delivering the Convocation Address at the seventh convocation of the Indian Institute of Management, Lucknow. Excerpts

You are entering an era of life which is going to be extremely exciting, most challenging and also difficult. In a way, you are getting into an era where your predecessors had a comparatively soft time. They lived in times which were not very competitive. They lived in a world which was much more sheltered than the world you are going to enter. They had the support of a system which protected them from competition within and outside. But yours is going to be a different way. They had learnt how to work in the Bhawans, Secretariats and Governments. And your strength is going to be tested in the market place. And to that extent, I think your life is much more challenging than that one which your predecessors had. But I do not mean to say that they had an easy time either to work with the government, with the civil servants and others. As your Chairman knows it is not an easy task either. I always used to say that an industrialist, to get a licence from us, (because I belong to that tribe alongwith Mr. Saxena) had to fight a Gorilla war or a Third World War. And I must say that your predecessors were able to achieve it and they were able to get the licences for which there was a tremendous amount of competition, as such. But having got that it was a much easier race than the race in which you are entering.

I would also not like to minimise the achievements of your predecessors and the achievements of the industrialists of the 60s and 70s in India. When we got our independence, India was an industrial desert. There was hardly anything that we were able to manufacture in this country. There was a steel mill, no doubt, but a halfhearted one. There were a few textile mills. There were some manufacturing units connected with railways and ordnance. But, by and large, there was nothing that India was manufacturing. Today when you look at India and look at the achievements that we have made, we have every reason to feel proud of what we have achieved. There is nothing that we do not manufacture. There is nothing that we cannot make here which is being made anywhere else in the world. Who did it? It is we, the Indians, who did it — not that the people came from outside, not that the managers were from outside, not that the technocrats were from outside. Most of them were from our own country. We did not have any profession worth the name in the country. Yes, we had some universities but they were producing clerks for the government offices. There were few doctors, few engineers but even they had to go abroad to get a seal of confirmation that they can be trusted.

Today in India, we have got the

1/10th of the world's technological manpower available with us. Where have these people come from? From the womb of agricultural and rural India. The parents had no mailing address whatsoever. There were no visiting cards circulating in the society. We were all very very ordinary men. And from those ordinary circumstances, we came up and today we are, what we are.

We are respected, your profession is respected even in the most competitive part of the world i.e. in America. They love to reach you, to get you into their industries, businesses and others. As a matter of fact, once in a very sarcastic manner, I said to my Indian Institute's boys at Bangalore (where; at that time, I was the Chairman) when the boys and girls joined my institute, their soul had already travelled to America and it takes three more years for the body to arrive there.

But, why was it happening? It was happening not because we were lacking in ideas and capabilities and capacities but the pace with which we were growing was slower. I told you that we were an industrial desert and today we manufacture almost everything. But then when you compare the quality of our products, when you compare the prices of the products with the prices of others, when you compare the exportability of our products with others, we feel unhappy about our performance.

We have done very well, but at the same time we are not satisfied with what we have achieved. There are many miles for us to go to become competitive in the rest of the world. One day I remember, I was speaking to an audience in Harvard University and when I talked to that audience about the achievements that we have made and the dissatisfaction that we had with those achievements, a lady got up and said, "Don't you think, Mr. Ambassador (because at that time I was an ambas-

sador) you are making a contradiction in your statements". I said, "No." And I explained it to her that while we are happy with our achievements but when we compare our achievements with others we aren't very happy. (I cited an example of Keynes). Somebody had asked Lord Keynes, "How is your wife?" He said, "Compared to whose wife." So similarly, when we compare ourselves with others, we definitely feel that we have much more to do in order to become equal to others.

And that's where you, as young men and young girls, have got a role to play. I was telling you that you are entering into a new era. This is a different era. The essence of which you must realise. I sincerely request and wish that you bestow your attention to understand as to what is happening to this world, the changes — which were described by the Chairman and your director in their speeches. The world is not the same as it was after the end of the cold war. All the reference points, all the support which was there to guide us earlier have disappeared. The basic premise about the political leadership, about war and peace, about the ground rules relating to trade and commerce, they have all undergone a change. They have undergone a change because earlier we had a reference point of a conflict between America and Soviet Union. Everything we judged in the light of the particular confrontation but with the end of that particular confrontation we find that our reference points have disappeared. We find that the best of the nations are at a loss to understand as to what directions they have got to take and where it will go. There are some people who think that with the demise of the Soviet Union, with the weakening of the Communist ideology, with the tension between the East and the West reduced, the conflicts in the world have come to an end. And that there is only one model of economic sys-

tem that is the Capitalist American System which is going to survive and rule the days.

Think over it whether this particular assumption of some of these people is so; my own feeling is, it isn't so. After these tensions have come to an end, a new competitive conflict has started between the capitalist societies themselves. Try to understand one particular thing — that today capitalism is not a single model of growth and development. There are three models before you. The American model, the Japanese model and the German model. All the three believe and are committed to free market. And yet all the three have got different aspects in respect of how they move, how the State has to work and what role taxation and the government has got to play.

America, one of the three types is described as the most free wheeling system in which the industry investors would not like interference from the side of the government. Mr. Reagan used to say, the government is a part of the problem and not a part of the solution. Mr. Reagan, Mr. Bush and others would allow people to go forward in pursuit of the profit and would not like to interfere with whatever might happen to the society in that rush for prosperity. They thought that the magic of the market will decide everything.

On the contrary, the Japanese system is different. It also believes in free market. It also believes in competition. But the role of the State is supposed to be very strong in the Society. They do not see adverse relations between industry, business and government. They consider all three to be the partners. Their perception and objective is that they ought to bring prosperity to the community and to the nation as such.

In America, on the contrary, what is good for General Motors ultimately becomes good for America. But General Motors is not bothered

about America when it comes to its pursuit of profit. While in Japan as I said, the State and Toyota are one. You might get the name of Toyota but behind that you have got the State working mercilessly to support that particular agency to get as much share of the world market as possible.

Similarly, take the German model. In the German model, the responsibility for the welfare of the people is a fundamental canon which is being observed both by industries, banks and government. The government is a smaller factor in Germany but the banks and others feel totally responsible and dedicated to the welfare of the labour and people.

I am only telling you these particular things to make one point that after the end of the cold war it will be wrong for you to believe that there is only one system of capitalism which you could blindly follow. In the new world, after the cold war, we have got to very cleverly, shrewdly, minutely examine the various aspects of this particular system. Because India is going to choose one of those systems which will be able to guide our destiny for future. And you are intimately entwined with the destiny, and therefore, it is your responsibility to understand and clear your vision before you enter into that debate.

One more thing I would like you to understand and that is the competition in India is not going to remain a domestic competition. Whether we like it or not, the rivals are going to come from different parts of the world into India's mainland and can play havoc. If you aren't prepared to handle that particular situation, you will be wiped out. And how sad it would be that with such bright young men and women we have not prepared ourselves to hold back the flood which is going to engulf this country and other countries.

I know one might perhaps sug-

gest a defensive strategy by saying that let's raise walls, let's assume protectionism is the order of the day and save ourselves from the onslaught from outside, build ourselves up and then we will play the game. I am sorry, we are not going to get that time at all. Mr. Clinton is also trying the same thing. Finding himself totally overtaken by the good products, the less expensive products, the better supplied products, they are finding that Americans are losing in America itself, and they are thinking that by holding back what you call the entry of other products from the rest of the world, he will be able to solve the problems of America. Let me forecast the future and tell you that he will fail in that particular endeavour.

As a matter of fact, amongst the economists they say that the reputations of the economists are ruined not because of gambling, not because of womanising, not because of any other evil, but because they attempt to forecast things. But since I don't have much of a reputation, I don't mind forecasting it.

I want to tell you that protectionism is an impossibility now. With the new burst of technologies which are taking place all over the world, which are penetrating into the country making the world a boundryless world, the idea that we will be able to protect our industry, the industry in which you will be working by raising tariff walls and others is an idea which is losing its validity now.

I remember, 10 years ago when I used to go to Geneva, our discussions used to be about tariff walls. How high the tariff walls should be? Our discussions used to be about the quantity to be imported. Our discussions used to be about the quota system. But today when you go and have discussions, these are not the matters being considered. They are talking about your economic system and achievements in your country. They are talking about the structure of fi-

nance and the structure of economy in your country. They are talking about the level grounds whether you like it or not, on which the game can be played.

And it is not against India alone. America insists that Japan must consume more. It must open up its domestic economy. It must serve better food at the dining table and at the breakfast table. That they should dress better and eat better. Just imagine, a country talking to the other country as to what its food habits should be, how much they should eat and how much they should conserve? Today America tells France that you cannot allow the subsidy to the extent that you have allowed so far. Today, if Japan returns the compliments to America by saying that if you are losing out because your labour is lousy, you are weak, you are given to McDonalds, rather than to new strategies of the world, what can be America's response : Imagine, the world telling Germany that it should correct and bring down the interest rates. The world telling India that its intellectual property rights should be changed.

Just two or three years ago we used to get agitated when World Bank and others used to lay conditionalities. Today it is the order of the day. The interferences don't stop on the water edges or the borders of Himalayas. The Berlin Wall has collapsed. The iron wall is no longer there. The Chinese Wall is meaningless. India's Khadi Curtain can not hold back. The entry of foreign influence and goods into your country is the order of the day. You might also think that we will be able to prevent this particular thing by saying that all right we turn our face against you and we will live as simple and as we would like. But then you find that you need investment and technology.

Any country which wants to improve the quality of life of its

people, which wants to raise the people from the pits of poverty to a decent standard of living has got to invest more. I do not know if there is any country in the world which could say that I do not bother about the present misery and I will wait till I become strong enough to achieve the particular standard which I want. No Sir, it is not possible; the people are not going to give you the time and when once you accept investments or loans or aids or other things to come into your country, you have wittingly or unwittingly opened up your economy again.

One more thing I would like to tell you about how the Americans found it difficult to close the market and that it is the strength of their consumerism. I was in America when during Mr. Bush's time, a slogan was given "Be American Buy American". For ten days there were handbills, there were posters, there were slogans written everywhere inciting people not to buy foreign goods and buy their once American make goods. The thing could not last for over ten days. The women, the workers, the boys, the children, the girls and others, housewives, all came out and said, "Mr. Bush, you can't make us buy inferior goods and pay higher prices. If General Motors are not able to give us a good car then they should close down. You can't make us buy a bad fan or any other article, if a better one is available anywhere in the world". They had then to withdraw the slogan.

Believe me, the same thing will happen in India. We also had that nationalist slogan or domestic nationalism that I will use only Indian goods. I remember there was a time when we used to buy our fountain pens, though there were more fountains than pens but we used to say that these are our products and we would like to use them. But today I doubt very much whether you will be able to do it. And if the government

wants to do it beyond a particular point, take it from me again that the smugglers will bring in those particular products to your country. It is for nothing that some of the smugglers got elected to the legislatures and to the party. They have served a certain purpose in society, that is, bring the goods which people needed. Can we afford to ignore the facts that even our ordinary men who went to work and slog in the most inhospitable climates of Saudi Arabia and other countries, when they came, they brought baggage full of goods from outside. Though 50 to 60% of it was taken by the custom officers, but even then the 40% that they brought into the society made people start wondering as to why the hell am I being cheated in this country.

Now this particular power again is coming in. Don't underestimate it. Your government may pass a legislation to support you to have inferior products manufactured, but people will not buy it for long. Whom are we supporting in this country? Is it the inefficient production that we are supporting? Or are we supporting the common man who earns his livelihood with great difficulty and with that saving which he has, he wants to buy something and you want to deny him. You want to short change them. It can not be.

Yet one more thing I want to tell you that some of you who have read political science, as a subject, must have learnt something about 'sovereignty' as the concept. The concept of sovereignty laid down that nobody had a right to interfere in my country or I have no right to interfere in another's country. The perception of Panchsheel that you can't enter other country and decide things for them was also based on it. But unfortunately today, that concept of sovereignty has become worse. Today if you look to the way in which the massive transfers of capital technology (the exchanges in the market

which are taking place), you would understand how it is impossible for a country to remain sovereign and stop somebody from coming in. You will be amazed to know that before Mr. Bush and now Mr. Clinton decides as to how much of wealth should go out of America, the wealth has already gone and the banks have already shifted the money from one country to the other country. However much Mr. Kohl might feel that his banking system in Germany is strong in its qualities but even he will not be able to hold back the way in which money is being transferred.

The television and the entire telecommunication has beaten the opportunities known to people in different corners of the world (where you would have taken years to reach) with the news as to what is happening. Under these circumstances, it is becoming difficult for one to expect the state to resist the interventions from outside.

And my last point to prove this particular thing is that the nature of industry and corporate sector has undergone a change. Today it is very difficult for you to say that a certain company has got a national identity or an international identity. A Japanese company has got alliance with a German company, alliance with a French or the American, to sell it in those particular parts of the world. The money might be Japanese but the location might be in America and the things might be sold in Northern America or in Canada. This is super internationalism which is coming into being or what you call globalisation, reference to which has been made by your Chairman and the Director.

Try to grasp its meanings and significance. It is no longer possible for any country to say that my company is totally a national company. It won't be possible in India also. We might go slow. We generally go slow. We generally miss buses and

when we get into the bus, the bus is highjacked. That might happen once more but not forever. And therefore, it is extremely important for us to devise a positive strategy to meet the situation of competition.

I said to you that the competition is unavoidable. I said to you that outside influence will penetrate into the country and they can't be stopped. I also told you that the defensive strategies of the past will not work. We have got to have a very positive strategy to meet the situation and it can be done. And my feeling is that you have got to grasp and understand its significance. The time has come in India when the State must give up its suspicion against the private sector and the industrialists. The time has come when we have got to imagine to believe these particular things that it is India which has got to march and the industrialists are instruments in that particular march for the purpose we have in our mind. We have got to learn a lesson from Japan. It is not America that can give us a lesson nor Germany either. But from the East we get the answer to our problems because we are essentially Eastern in our attitudes. And you have got to play a role and understand as to how to win over the government to your side. And it will be the task of the government to realise that you are equal partners in that particular game. It is not Toyota that wins. It is not Singhanian that wins. It is either Japan or India that wins or loses.

We had an attitude of mind that was not helpful at all. We considered profit to be a dirty word. We get diarrhoea when we hear of the success of somebody else. We have got to get over that attitude of mind and heart.

And for this the first thing which I consider absolutely necessary is that the concept of state's intervention has got to undergo a change. There were some friends of mine —

when I made a speech in Delhi University — who came forward and said that you are the person who used to talk against the State and now you are wanting the State to play the role. I said that I was never the one who talked of the withering of the State. It is only the socialists who talked of the withering away of the State and it withered away in Bihar, nowhere else. But what I wanted to say was that the type of intervention has got to undergo a change. The State cannot abdicate its responsibility of the economic development of India.

Today's industrial and economic development of India is under a size, an attack. Let us wake up to that new reality and understand it. And it is not the confrontationist's philosophy of America that will help us. But it is the joint cooperation that we have got to think of — that there is a revolving door which operates. Today you are in the private sector, tomorrow you are in the government. Today you are in one firm located in Japan, tomorrow you are somewhere else. You have to become a messenger. You have got to become the agent of that particular change. You have got to imbibe the idea as to how to work with the State, not suspicious of the State. And similarly, the State will have to learn and work closely with you.

The second thing is — if what I have said and if what your Chairman and Director have said is correct — that globalisation is taking place, we will have to become internationalists in our attitude and in our framework of industry. We have to be part of the global system. We have got to get into the global system somehow, somewhere and let our flag also fly along with others. There is no point in just saying that why an American company or Japanese company has come here. The question you should put is, why is it that our companies are not going to America, Japan, Germany and other places. Smaller

countries have been able to achieve it and we have got better view. Believe me, I am not exaggerating it when I tell you so.

My country was very kind to me, very gracious to me when it gave me opportunities to work in several parts of the world in several capacities. I can tell you without hesitation that I am yet to come across the sort of talent which we have in India. We have got to honour that particular talent. You, the young boys and girls, are the soldiers of the war that we have got to fight. And what is this fight that is going to be there? Again permit me to say that future wars are not going to be fought in battlefields. They are going to be fought in the market places. And you are the soldiers of the market places. Come up with the ideas and see to it that how you can assist and help your companies to become global in their attitudes and in the world ethics. How do we make production alliances in such a manner that we get ourselves intertwined with them. I think that is possible and that is what we have got to do

You have also got to change some of the ethics, some of the patterns and some of the behavioural attitudes which are there in the corporate sector itself. We have got to think in terms of a greater homogeneity amongst the different factors of production that we have had so far. We cannot afford to have quarrel and fight with our labour. Labour and the management have got to work together. There has got to be cohesion amongst them. England has suffered very badly on that account. America has also suffered badly on that account by taking up the attitude of hire and fire. Surely it is also changing. The identity of America is also undergoing a change. But look at Japan where they think it is the *Kutumba* or family in which they are operating or working. Even when they have got to go on strike the way

in which they go on strike is entirely different. And the father figure of the industrialists and managers has something to do with it.

You have got to pick up a lesson from America. Try to understand its consequences to America itself and then you will realise and find that you have got to build up a new cohesion between, as I said, the two very important factors in the industrial world that is management and labour. But the story does not finish here. If you look further and try to find out as to why America is beaten by Germany and Japan, you will find that the management in those two countries have taken care of human developmental activities of the labour. They have put new educational means before the labour. They took it as a responsibility of theirs that once somebody joins as a labour in that company he has got to graduate and go out. He is given chances to work in different departments to understand and grasp the meaning of the totality and hold and not taken as only a person you see doing work like an ant in a particular area.

I would very much request you to give a thought to it because your predecessors, as I said, were in a different world altogether. That world is nowhere present except in our own imagination. And if you try to look to the past, past will eat you up. I think it was Naipal who wrote it in the dangers of civilization and put it very well when he said if there is one threat to India, it is its past. And if its coming generations were to think only of the past, he ended by saying, past will eat up India. Beware of the past. Surely roots are important but roots can not be brought up as flowers and fruits. It will destroy the tree. So, therefore I lay emphasis on these aspects of homogeneity, the unity with labour, the need to teach labour, these are the things which we have got to consider and give importance.

My last point is where I find countries leading ahead of us is the use of technology, the inventive and innovativeness which goes to make a product good. I was reading it somewhere very recently in a magazine that in America the managers have no interest in the companies and they are prepared to leave them as early as possible in order to start their own things in a garage or somewhere else. Yes, it has its own advantages. But look at what happens in Japan. In Japan, the ordinary technical men, producers and others take pride in bringing about innovations in their products. It is not inventions alone which make the difference. You take this watch. It is not that the Japan were the originators of a watch, no, but it is from a floor worker that the idea came out as to why not we put the calendars into it. Why not we put a little battery and light into it. Why not we put a few addresses into it; why not we put a few musical songs into it. And in Japan they were showing me that they are trying to put the Azaan also in it because they felt that the Arabs are the only people who can continuously or eternally go on buying their watches.

So when I asked a person what he was doing, the reply was that he was putting Azaan five times in the watches and that it would give the Azaan so that they may bow in Namaaz. I said they will not bow Namaaz but they will bow for your watch alright

But the point I am making is that innovation is something which has got to be encouraged. It is the product design which has got to undergo a change; I think your Chairman said that and I would emphasise it again. You who will be occupying certain places very close to the Executive Chiefs of your organisation, will be able to play a role, to encourage innovative ideas and inventiveness of the people. I do not wish to take much of your time but I only want to

tell you that please grasp the meaning and significance of the new world into which we have already entered. Try to understand your role in that particular regard. Have confidence and faith in your staff. Be optimistic of the future because it is only

those who can visualise a bright future, who find the present to be liveable and I am confident and sure that you young boys and girls will be the pride of India, pride of this institution, your teachers and your parents.

Excerpts from the Presidential Address

by

**H.S. Singhanian, Chairman, Board of Governors,
Indian Institute of Management, Lucknow.**

I wish to place before this assembly of successful candidates a few thoughts on our contemporary world of humanity, of flora and fauna, of animals and winged creatures.

The composite world that I have just mentioned always sought survival through self-assertion and self-aggrandisement. Survival is a sense perception. But the human mind can look far beyond. It has demonstrated the capacity to probe the secrets of nature. Moreover, it has thought of will power to control the natural impulse and discriminate between right and wrong, true and false, noble and ignoble, good and bad. And yet men have warred and killed one another for different reasons. So many times, too. Even during the last few decades when there has occurred a great explosion of knowledge, when there are more educated people around, in numbers undreamt of in the beginning of the century, the planet in which we live is not only messy; but has become dangerous, not only to human life, but all life.

According to an independent study, today, three years after the end of the Cold War, there are at present some 73 flash points around the globe that threaten regional or international stability. Three major concerns centre around proliferation of non-conventional weapons, drug-founded organisations and ethnic upsurge. Added to these are the backlashes of generalised reduction in

economic activity in developed countries, and or the failure of the political will to introduce order in international commercial relations.

Without industry and technology, the carrying capacity of our globe would already have been exceeded a long time ago. However, the fact remains that we are faced with a rapidly deteriorating environment, destruction of the ozone layer, depredation and dying of our forests and our lakes, waste, poverty and starvation. We can no longer afford not to treat the environment as an indispensable asset for sustainable development. It is a simple phrase — sustainable development — with profound implications. It means, first and foremost, that we must put our way of life on a foundation that is based on generating not drawing down assets.

At best, the world is like a jigsaw puzzle. Some pieces can be picked up and placed securely in their position. I personally believe that the human mind is capable of being animated and vigorous without the application of gross and violent stimulants. At the same time it is true that just as a combination of ignorance with goodness may be futile, knowledge sans moral and spiritual values is dangerous. Character is not the by-product of a University education. It can come out of a desire to learn with humility. There is a terrible indictment against the college bred who are in positions of influ-

ence and power and to whom can be traced public falsehood, betrayal of trusts, aggressions, injustices and catastrophes. This is the crux of the problem. We have to fall back on the wisdom of sages and saints. Swami Vivekananda's basic teaching is that one must have faith and courage. He preached that first of all we must give to our own selves some sanctity, and give the same treatment to other selves.

Remember, all great thoughts are the product of reason and faith and Poet Rabindranath Tagore so elegantly defined faith as substance of things hoped for and of the evidence of things unseen. Also, remember, all great thoughts in their most significant aspects, particularly at the beginning, have their seedbeds in the hearts of only a few.

Every generation passes but through the transitory history of Man. And every generation stands on the shoulders of not only the immediate earlier generation, but on the pyramid formed by ever so many previous generations that have passed away in the limbo of time. So, my young friends, you stand on a pinnacle far higher than that of your fathers, and you should be able to see farther in the past and glimpse distant horizons.

What about the present? The present challenges facing both the developed and developing countries are much the same: how to amend the old economic order? How to make it consistent with national requirements and with the realignment of economic and political powers that has occurred since the Second World War, and specially during the past three years or so? Every country has attempted to meet the present complex of political and market forces without unduly disturbing the old rules. Thus, a series of new problems, in addition to the old, fester the national economies, and international economic relations constantly verge on neo-mercantilism.

Surprisingly, the developed co-

untries have shown greater reluctance to meet the emerging new order than the developing ones. When national interest is narrowly defined, it always calls for the continuation of this or introduction of that measure that can yield temporary advantage. And, if almost every country does the same, the so-called advantage converts itself into loss, usually for all. As may be expected the weaker economies have to bear the brunt of this loss.

So far as India is concerned, a change in policy towards restructuring the economy and integrating it with the global economy was seriously begun in July 1991. Earlier attempts were step-by-step exercises to liberalise. Even the latest one, radical in scope in relation to the past, has followed the path of gradualness. Once a society launches itself upon a programme of liberalisation, there is no turning back, no half-way house. Should the process be arrested the results will be far worse than the situation that obtained earlier. However, it will be foolish to think liberalisation will not disturb such equilibrium as has been reached, though that equilibrium is a forced one and inert in character. The only solution to transitional problems is to move rapidly forward and create a new dynamic equilibrium based on the full implications of the process of reform. The very essence of reform is

to give primacy to individual initiative and enterprise.

If it is to be a live force, it must derive its strength from the strength of the spirit. Its prime aim cannot be sufficiently emphasised. It is to create an economy of plenty which will offer to every individual a larger way of life and a wider variety of choices. To put in another way, this freedom to choose will depend increasingly upon the type of choice each individual makes. This in turn for an expanding knowledge, vision and aspiration with concomitant effort.

My young friends, you are going out into a world, which does not follow textbook principles. You have to deal with so many people, conscious beings, each regarding the same thing in his own way against his independent experience and notions of objectivity. It is for this reason that life is full of difficulties and perplexities. You must look upon them not as insuperable impediments, but, as challenges that have to be met. Those who transform challenges into opportunities have been the forerunners and builders.

Today our country is full of challenges, and, therefore, opportunities. The present as well as the future belong to you. It is up to you to change the present for the better and earn rewards for yourself, your country and posterity. I bless you all in this enterprise.

Excerpts from the Welcome Address

by
J.S. Rao, Director,
Indian Institute of Management, Lucknow.

Postgraduate Programme

The Institute has continued to make steady progress in all its four main activities viz. Teaching, Training, Research and Consultancy.

In the Postgraduate Programme which at the moment is the main

teaching activity, the intake was increased to 120 but due to certain extraneous factors the actual intake was only 104. There was a marginal increase in the tuition fees. I am glad to inform you that next year the institute is not planning any increase in fees. On the other hand, a detailed

scheme for the award of institute scholarships to 10% of the students is being worked out. This will be in addition to the fourteen scholarships available from the industries at present. Efforts are also being made to streamline a system of procuring bank loans to the needy students so that no meritorious student will be deprived of joining the institute because of economic reasons. Once these measures are in position, the institute will have to think in terms of raising the tuition fees substantially. Higher education has so far been a highly subsidised activity and in the present situation this cannot continue for long. Since fees had not been revised over a very long period, there may have to be fees revision in quick succession to reduce the extent of subsidy.

Management Development Programme

As regards the training of in-service Executives, the institute has started its Management Development Programmes in a planned manner by having a regular MDP calendar and during the year we have run more than 20 programmes. A well furnished MDP Centre has been established in the campus and this is expected to go a long way in our consolidating and taking up in a sustained manner the activity of providing training to in-service managers. The institute also ran a number of specific organisation based in-company programmes.

Research

Research activities in the institute are yet to achieve the standards and the heights expected from an institute of excellence. The main reason for this has been limited faculty strength. We have been able to increase the faculty strength and efforts have now been initiated to face this challenge.

The institute has also recently started bringing out working paper

series and four papers have been released during the year —

1. "Sectoral Moulds in Indian Industry"
2. "Challenges in developing indigenous theories of organisation and management"
3. "Managerial Leadership in Indian context : A literature review for research directions"
4. "Higher education teachers' perception and feelings about teaching community and institutions : A study of the culture of the educational institutions"

In coming years, the institute expects to continue concentrating on functional area research, specific problem related funded research and research in the under-managed non-corporate sectors like Health, Education, etc.

Consultancy

A number of consultancy projects had come to the Institute. Some of them are from international organisations like World Health Organisations, World Bank, etc. Some of the prestigious consultancy projects are as below -

1. "A study of Organisation and Management of Health Care Delivery system in selected States in India"
2. "National Programme for Control of Blindness"
3. "A study of Organisation and Management of Health Care Delivery System in selected districts in India"
4. "U P. Sodic Lands Reclamation Project"
5. "Management of Trade Unions II"
6. "Managerial Leadership in Indian Context"

Future Plan

The Institute is in the process of drawing up a Perspective Plan. This has all the more become necessary to

make the Institute respond adequately to the rapid changes taking place in the country in the economic and industrial scenario.

This Perspective Plan amongst various other things will aim at achieving the objectives of becoming an institute of excellence and progressively moving towards financial self-sufficiency.

The Institute also plans to play the role of a nodal agency in improving the quality of management education in the country, to pay greater attention to transfer of management practices and concepts to the under-managed non-corporate sectors through research and training programmes.

Centres for Health Management, for developing instructional software, and for Information Management are being planned during the coming year.

Alumni

During the coming year it is also proposed to pay greater attention to the activities of the Alumni Association. Alumni members can help the Institute develop greater institute-industries relationships for the mutual benefit of both.

Indian organisations who have had the advantage of sheltered markets are suddenly finding themselves in a situation where they will have to face fierce international competition. Globalisation has its own advantages in terms of increased opportunities, larger markets, access to latest cost effective technologies etc., but the threat of being swept off the scene, if one is not quality and cost conscious, is also quite large.

A high concern for technology upgradation, quality, cost awareness, and consumer satisfaction are some of the corner stones on which industries will have to build themselves if they are to survive and move towards becoming leaders in their own right.

Global Meet on Education

A summit meeting of leaders from three fourth of the world's illiterate population is proposed to be held in New Delhi later this year to discuss the UNESCO-UNICEF initiative to promote Education For All (EFA) in the nine most populous countries of the world.

The Director General of UNESCO and the Executive Director of UNICEF have taken an inter-agency initiative for EFA, focussing on the nine most populous developing countries which together account for 75 per cent of the total illiterate in the world.

The Human Resource Development Minister, Mr. Arjun Singh, who recently visited Paris had held talks with Chiefs of the UN organisations on the proposed summit expected to be attended by heads of government of the nine countries. They are India, China, Egypt, Mexico, Brazil, Indonesia, Nigeria, Bangladesh and Pakistan. A core group is being formed in the Education Ministry to work out the details of the conference in consultation with the UN organisations.

The conference has special significance for India which has embarked on a total literacy campaign throughout the country.

For the rationale behind the UNESCO-UNICEF initiative, the premise is that without progress towards EFA in these countries, which account for about three quarters of the world's illiterates, the global goals outlined in the world conference on education at Jomtien in 1990 would remain unfulfilled.

The objective is also to give the

national and global efforts the much needed visibility. Concrete public enthusiasm facilitates the mobilisation of resources both nationally and internationally and helps enhance the quality of the total effort.

As part of the preparatory activities leading to the Delhi Education For All summit, a Working Committee meeting of 9 countries at Ministerial level was convened on June 3 and 4 in Paris which was attended by Mr. Arjun Singh and Mr. Y.N. Chaturvedi, Additional Secretary, Department of Education.

The session discussed the substantive issues as well as the procedural and organisational arrangements of the conference. The meeting also discussed the content and format and the final statement or declaration to be adopted at the EFA summit.

The nine countries have already demonstrated through their actions that they possess the will to work for EFA. The need is to sustain and reinforce it and to devise means for transforming moral and political commitments into resources, programmes and actions for making EFA a reality at the earliest.

Vocational Courses by Distance Education

The book "Technical and Vocational Programmes through distance education" published by Dr. B.R. Ambedkar Open University was released by the Governor of Andhra Pradesh, Sri Krishan Kant, in Hyderabad recently. Speaking on the occasion, the Governor underlined the need for offering Vocational

Courses through Distance Education and said that the future of the country and the world was invariably linked with technology and it was necessary to update the human resources for development. He observed that more such books on research work and socially useful educational methods should be published by the University.

Prof. S. Bashiruddin, Vice-Chancellor, said that the book was based upon the papers presented by distinguished experts in distance teaching at the International Seminar on "Technical and Vocational Programmes Through Distance Education" held in August last year. The book edited by former Vice-Chancellor of the University, Prof. R.V.R. Chandrasekhara Rao, has six co-authors who contributed chapters belonging to Open University. Prof. Rao, who also spoke, said that Technical and Vocational Programmes by Distance mode was very relevant to India.

Computer Applications in Social Sciences

The Centre for Social Studies, Surat, proposes to organise a training course in Computer Applications in Social Sciences from September 13-22, 1993.

Sponsored by ICSSR, the course is particularly meant for those who are engaged in survey research and have to deal with data processing and analysis. The course aims at exposing the participants to computer processing, fundamentals of computers, basic requirements of proper processing of data and to give a general idea about the organisation and quantification of data and statistical methods. Knowledge of basic statistical method is essential.

The course contents include (1) Introduction to computer, its structure and input-output devices, general guidelines on hardware selection, various input/output mediums; (2) Survey research and codification of data, its advantages and limitations; (3) Transfer of coded data to input mediums, data retrieval; (4) Introduction to PC software (5) Making use of computer analysis; (6) Statistical techniques; and (7) Use of SPSS (Statistical Package for Social Sciences).

Further details can be obtained from the Course Director, Centre for Social Studies, South Gujarat University campus, Udhna Magdalla Road, Surat - 395 007.

Teacher Orientation Course

The 26th Orientation Course of the Academic Staff College, Pondicherry, was recently concluded. In his valedictory address, Prof. A. Gnanam, Vice-Chancellor of Pondicherry University said, "a teacher is an emulating system, and is not a transferer of knowledge. Teaching must be taken as a mission and the call of duty is much more than giving lessons to the learners in the classroom." He impressed on the participant-teachers, the importance of the role of the teacher in society. Since higher education was highly subsidised, the nation expected increasing returns from the teachers, he said. Stressing the importance of the training programmes for the teachers, he mentioned that the teaching demanded skills and competence and Orientation Course was the best way to give a foundation for this profession.

Dr. M.S. Jayaraj, Director, Academic Staff College, emphasised the need for training for college teachers and said that teaching today was

much different from what it was a few decades ago. A teacher has not only to teach what the students should know, but must also know what the students wanted to know. A knowledge of the students psychology was very essential for becoming a good teacher, he added.

During the Course, many discussion sessions were arranged for participants and the recently graduated students were invited to have interaction with the teacher-participants. Two sessions on the use of computers for academic purposes, microteaching, video-coverage were also conducted.

32 participants from different parts of India attended the orientation programme.

Training Administrators for Open University

The Centre for Staff Training and Development of the Dr. B.R. Ambedkar Open University recently conducted a one-day workshop on "Administration in Open University" for middle-level administrative and supervisory staff of the university. Prof. S. Bashiruddin, Vice-Chancellor, who inaugurated the workshop, emphasised the importance of a student oriented administrative system and the need for the development of professional competence of administrative staff. The four areas covered by the workshop were (a) The concept of Distance Education and critical issues in the administration of distance education; (b) Dr. B.R. Ambedkar Open University's structure and functions; (c) Administration of Open University : Role of Supervisory Staff; and (d) Needs of Distant Learners : Role of Administration.

The workshop was attended by over 35 participants.

Training Programmes for Educational Administrators

The Centre for Work Study in Educational Administration, Panjab University, proposes to organise a Training Programme on "Project Management" from July 26-31, 1993 for Executive Engineers, SDOs, Deputy Registrars and other officers upto the rank of Assistant Registrars. The course contents include : Introduction to Project Management, Development of Project Management System, Project Formulation, Preparation and Feasibility, Cost Benefit Analysis, Resource Planning and Resource Management, Network Techniques (PERT/CPM), Project Implementation, Project Monitoring, Monitoring Information and Reporting System and Decision Making.

The Centre also proposes to organise another Training Programme on "Use of Computers in Administrative, Financial and Personnel Management in Universities and Educational Institutions in India from 16.8.93 to 27.8.93 for the benefit of the functionaries engaged in educational administration.

The programme will cover areas like Computer Fundamentals; Data Processing Needs in the Educational Environment; Use of Computers in Examination, Financial Accounting and Personnel Management including Office Automation; Hands-on-Experience; on using Word Processing Packages and on Electronic Spreadsheet and Management of Computer Centres.

Further details can be obtained from Shri Shital Parkash, Hony. Director, Centre for Work Study in Educational Administration, Panjab University, Chandigarh.

New Chairs at JNU

The Ministry of External Affairs, Govt. of India, is reported to have agreed to create an endowment for a chair in international relations and area studies at the Jawaharlal Nehru University. The chair will be in memory of Prof A. Appadorai, founder director of the erstwhile Indian School of International Studies.

Prof. Y.K. Alagh, JNU Vice-Chancellor in his report for the year 1991-92 said the Reserve Bank of India had created an endowment for the institution of a chair in economic theory and the Ministry of Welfare had made a corpus fund for establishing the Dr Ambedkar chair. The Exim bank was financing the establishment of a library in economics.

JNU, Dr. Alagh said, by cutting down some services had raised their library expenditure by 52 percent and for laboratories by 21.5 percent. The allocation for field work had been tripled and other miscellaneous expenditure on academic programmes had been increased by 10.5 percent from Rs. 23.83 lakh to Rs. 26.32 lakh.

Osmania Varsity Platinum Jubilee

As part of its platinum jubilee celebrations, the Osmania University plans to introduce a few socially useful and non-conventional courses during the year. They are environmental sciences; Bio-technology; Aeronautical Engineering, Tourism Management, Information Management and Computer application; Hotel Management; Rural Technology; and Rural Development. Besides a P.G. Course in Advertising and Public Relations, Diploma in Chinese and Japanese languages and a Dept. of Museology and M.Sc. in

Immunology and Centre for Atmosphere Science are also contemplated.

New buildings are proposed for University College for Women and Nizam College as mementos of Platinum Jubilee year. A special convocation will also be held to honour distinguished personalities of the country who have attained national and international fame in different fields.

Urban Basic Services for the Poor

The Regional Centre for Urban & Environmental Studies (RCUES) of the Osmania University, in collaboration with UNICEF, recently organised five-day training programme 'Urban Basic Services for the poor' for functionaries and trainers of the state-level and field-level training institutes involved in Urban poverty alleviation programme of the Union Ministry of Urban Development.

Speaking at the inaugural function Prof. D. Ravindra Prasad, Director, RCUES, said that improving the quality of life of the Urban poor through participatory philosophy and approach was the main objective of this training programme. RCUES, he said, had now been identified as a National Centre for Training of Trainers in urban basic services for poor (UBSP) by UNICEF and Government of India. The RCUES of Osmania University has collaboration with Institutes in UK and Netherlands. The centre has plans for training workers and official associated with UBSP programmes from SAARC countries.

Orientation to the trainees on the philosophy and implementation of UBSP, urban poverty alleviation package, highlighting the effectiveness of participatory approaches in

urban development process, sharing of training methods, and experience were among the various objectives of the training programme.

The course content for the programme included lectures, discussions, field visit to an UBS Project, audio-visual workshop and designing training modules.

Members of faculty of the state-level and field-level training institutes from the states of Karnataka, Kerala, Tamilnadu, Andhra Pradesh and Maharashtra participated in this programme.

Smoking — a Health Hazard

The Kashmir University organised a group discussion entitled "Smoking is injurious to health". The objective of the discussion was to create an awareness among young students and to impress upon the society the bad effects of smoking. The Dean of Students Welfare Dr. S.M.A. Qadri while welcoming the participants analysed the damages caused to the society due to smoking. He referred to the report of American Cancer Society which revealed that smoking was responsible for a number of diseases such as cancer, bronchitis and pneumonia. Prof. G.N. Javid, Dean, Faculty of Science and Head, Dept. of Botany, Kashmir University, who presided, in his address stressed the need and the role our young students could play to control and eradicate smoking from the society.

About 18 students from various university/teaching departments participated in the discussion. All of them were unanimous that the smoking should be stopped and students could play a vital role in this area. Mr. Mujtabah Hussain, a student of National Law School, Bangalore attended as a student observer.

Agriculture in Tamil Nadu – An Overview

Dr. S.R. Subramanian, Professor and Head, Department of Agricultural Economics, Tamil Nadu Agricultural University, Coimbatore recently delivered a talk on "Agriculture in Tamil Nadu - An Overview". Dr. V.S. Subramanyan, Director, Centre for Agriculture and Rural Development Studies, TNAU, presided.

In his presidential address, Dr. V.S. Subramanyan underlining the dynamic nature of agricultural sector, recalled Nehru's vision as "Everything can wait but not agriculture". He outlined meticulously on how agriculture and allied activities were interwoven in every aspect of social progress and a way of life for majority. Stressing the differential developmental picture between irrigated and rainfed farming, he reiterated that the rainfed resource poor farmers were at disadvantageous position. He also emphasised the need for increased use of local inputs like organic manures in order to enrich the land under cultivation. He impressed upon the large gathering of professionals assembled on the need for realising the wisdom of indigenous farm technologies. "A lot more to learn from farmers" he added. He stressed the dire need of conservation of the land and water, the scarce resources for the peasants of our villages and said that the continuous increase in population and the consequent increase of stress on land necessitated a part of it to go for industrial and residential purposes. These circumstances wanted us to increase the crop productivity. "In other words, we should learn to produce more and more from less and less land area available", he added.

Dr. S.R. Subramanian, presenting the database on the important macro aspects of agriculture and closely related sectors, compared the progress of Tamil Nadu agriculture over a period of four decades. As an expert in agro-climatic regional planning, he reiterated that we should aim at participatory sustainable agriculture. Bringing the agriculture scenario into focus, he simultaneously cautioned the loss of natural resources and called for protection of these valuable resources. Due to fragmentation of farm holdings, the percentage of marginal farmers was on the increasing trend, he opined and wanted the research results to reach the poor farmers in full measure and in time. All our developmental efforts in agriculture depended on progress of this vast sector, he added.

"To time the rainfall, control soil erosion and enrich the land through biomass, the trees are to be maintained and the ecology should be maintained", he said and added that the area under forest should be increased from around 20% to 33% through agro-forestry, social forestry and related forestry development programmes.

He also evinced concern over the increase in the current fallows from 8.6% to 12.4% over forty years and called for the critical analysis of the factors responsible for this state of affairs and by checking these, the farming situation could be improved further. He stressed the urgent need for increasing the cropping intensity from around 120%. Evincing satisfaction over the increase in yield of

major crops, he wanted the research and development efforts to be bestowed upon the increase of per-capita foodgrain production. On achieving this target to the desired level, the "nutritional security" should be given due care.

Posing the major question for himself as how the shortfall would be achieved in the context of net area sown remaining almost constant, Dr. Subramanian referred to the possibilities of development of nine lakh hectares of wasteland which were marginal and sub-marginal in fertility status and three lakh hectares of problem soil in Tamil Nadu.

Advances in Veterinary Research

The Indian Association for the Advancement of Veterinary Research [IAAVR], in collaboration with the Indian Veterinary Research Institute, Izatnagar, proposes to organise a National Symposium on Advances in Veterinary Research and their impact on animal health and production on 10-11 February 1994 at Izatnagar.

The seminar will focus on (i) Animal Health, (ii) Animal production and laboratory animals (iii) Livestock products Technology (iv) Biotechnology and (v) Basic and social sciences in five scientific sessions. Each session will comprise two lead papers followed by oral presentation of contributory papers. Poster sessions will be arranged during intervals between scientific sessions.

Further details may be obtained from Dr. T.N. Jaiswal, Head, Division of Standardisation, Indian Veterinary Research Institute, Izatnagar - 243 122 (UP).

Countrywide Classroom Programme

Between 17th July to 28th July, 1993 the following schedule of telecast on higher education through INSAT-ID under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

1st Transmission

1.00 p.m. to 2.00 p.m.

17.7.93

"Design-I. History"

"The Khayal and Beyond-I"

"Week Ahead"

18.7.93

No Telecast

19.7.93

"Angular Momentum-I"

"Earthworms-V. Earthworms as Animal Feed and Fisheries"

"Traffic Safety First"

20.7.93

"Black Diamond - Buckminster Fullerene"

"HIV Infection"

"Detection of Food Adulteration"

21.7.93

"Near - Net Shape Processes"

"Blood Detection-I"

"Sculptural Heritage of Kanchipuram"

22.7.93

"Say What You Mean in English-II"

"Arms and the Man-I"

"The Awesome Power"

23.7.93

"Status of Higher Mathematics in India"

"Starfinder-XII. Tapping the Sun's Power"

"Energy and Environment-I"

24.7.93

"Question Forum"

"Week Ahead"

25.7.93

No Telecast

26.7.93

"Angular Momentum-II"

"Earthworms-VI. Earthworms and Energy"

"Scientific and Technical Mission of Transantarctica"

"Business Finance"

27.7.93

"Rheology - The Science of Flows"

"Saving Before the Birth"

"Perspectives in Distance Education"

28.7.93

"Polluting the Environment"

"Biotransfer of Metallic Pollutants - Lead Poisoning"

"Urbanisation - Historical Perspective"

2nd Transmission

4.00 p.m. to 5.00 p.m.

17.7.93

No Telecast

18.7.93

No Telecast

19.7.93

"Little Knowledge is a Dangerous Thing - II"

"Managing Rural Business - II"

"Earthworms-I"

20.7.93

No Telecast

21.7.93

"The Dinosaur - III"

"Pre Fabrication Techniques of Building Construction"

"Ancient Creation of Singhad"

22.7.93

"Media and Aggression"

"By the People - VII"

23.7.93

"Question Forum"

"The Week Ahead"

24.7.93

No Telecast

25.7.93

No Telecast

26.7.93

"Little Knowledge is a Dangerous Thing - II : Answer

"Seed Processing"

"Earthworms - II"

27.7.93

No Telecast

28.7.93

"The Dinosaur - IV"

"Control System - I"

"Cell Transfer in Embryos"

Self Styled Vidyapeeths

The University Grants Commission (UGC) has advised three self-styled universities functioning in violation of the UGC Act 1956 to immediately stop associating the word "Vidyapeeth" with their names. It also asked them to stop conferring degrees.

The three universities are : Mahatma Gandhi Nisergopchar Vidyapeeth, Pune; Bharatiya Vidyapeeth College of Engineering and Medical Education, Pune; and Akhil Bharatiya Gandhi Nisergopchar Vidyapeeth, Nanded.

As per the UGC Act 1956 (Section 2), the right to conferring or granting degrees can be exercised only by a university/Vidyapeeth established or incorporated by or under a Central Act, a Provincial Act or a State Act or an institution deemed to be university under Section 3 (of the UGC Act) or an institution specially empowered by an Act of Parliament to confer or grant degrees. Furthermore, no institution other than a statutory university is entitled to associate the word "university/Vidyapeeth" with its name in any manner whatsoever.

The UGC has already taken appropriate action under the relevant provisions of the UGC Act against 27 self-styled universities functioning in different parts of the country.

PEW Scholars Program Awards

Prof. Madhav Gadgil at the Indian Institute of Science, Bangalore and Prof. Anil Gupta of the Rural Management Centre for Educational Innovation, Indian Institute of Management, have been selected for the PEW Scholars Programme for 1993 awards. The awardees will get \$150,000 each over a three-year period.

Announcing the awards, the director of the programme, Mr. James Le Crawford, described the winners as leaders who have dedicated themselves to the conservation of biological diversity.

"The award provides each scholar with an opportunity to do something different than in the past," he said.

Prof. Gadgil's ecological work has led to his election to the foreign membership of the US National Academy of Sciences. His recent work had focussed on the Western Ghats region where he has been working with anthropologists and historians to understand the problem of sustainable use of natural resources.

Prof. Gupta plans to improve conservation of biological diversity by documenting and disseminating "innovative conservation practices" which local people have adopted.

The programme is designed to encourage and support conservation scientists working on the preservation of biological diversity and related environmental issues.

Sports News

Sports Medicine Course at MGR Varsity

The Tamil Nadu Dr. M.G.R. Medical University proposes to introduce a course on sports medicine. Efforts are on to draw up a syllabus for the course with help from the National Institute of Sports, Patiala. A draft statute for bachelor degree course in physiotherapy has been approved by the university and sent to the Governor, who is also the Chancellor of the university, for assent.

All postgraduate degree courses will be of three years duration from the academic year 1993-94. Students of the 1992-93 batch, whose course commenced in February 1993, will have a two year postgraduate degree course.

The University is reported to have requested Central Government to provide Rs. 52.5 lakhs for the construction of an indoor stadium at the

new campus at Guindy. An amount of Rs. 17 lakhs would be made available by the State Government.

The number of institutions affiliated to the university has grown to 64 this academic year compared to 42 last year. Another 46 institutions offering medical and para-medical courses in the state have applied for recognition. At present, the University offers 54 courses at the undergraduate and postgraduate levels.

We Congratulate ...

Dr. S. Arya, who has taken over as Vice-Chancellor of the Chaudhry Charan Singh Haryana Agricultural University, Hisar.

BOOK REVIEW

Atomic Physics — Experimentalists' Viewpoint

S.P. Sud*

D.S. Murthy, V. Lakshminarayana and S.B. Raju. Atomic Physics. New Delhi, Tata McGraw-Hill Publishing Company Limited, 1992. Pp. 220. Rs.57/-.

The book under review is another addition to already existing books under various titles viz. Modern Physics, Nuclear Physics and Atomic and Nuclear Physics. The presentation of the material in this book is a slight departure from the existing books. The present book has been written to give the feel of experimentalists' viewpoint.

The effort of the authors in presenting various topics touching upon the classical experiments which created the edifice of Modern Physics is commendable. These experiments are described briefly yet give all essential details for a beginner. Chapters on Mass Spectrometers, X-Rays and Detection and Measurement of Radioactivity form the core of the book. The chapter on Mass Spectrometers gives the working principles of various spectrometers. The chapter on Radioactivity, its Detection and Measurement deals concisely with different kinds of detectors used to detect radiations and measure these.

The other few chapters of the book form a basic background for understanding the three chapters of applied nature mentioned above. The

two chapters on The Electron and The Atom could have been clubbed together as the material discussed in these chapters is common knowledge to students entering the Physics stream at the undergraduate level. The authors could have included such topics as Nuclear Models, Fission, Fusion and Nuclear Reactors. This would have made the book still more useful.

Each chapter concludes with a carefully selected set of problems to

supplement the concepts discussed. Solutions to a few difficult problems have also been provided. The references cited at the end of each chapter are an incentive to a motivated student to further explore the subject matter.

The book has neatly drawn line diagrams, well laid out tables and graphs to supplement the text. The appendices at the end of the book provide useful physical constants, approved SI symbols, masses of various isotopes etc which are a useful resource to an interested reader.

The language of the book is simple. A few mistakes have crept into an otherwise well-written book. The book could also be useful to students preparing for the CSIR-UGC tests, besides being used as textbook at undergraduate level. The book is modestly priced and within the reach of a college going student.

COMMUNICATION

You Can't Teach Without Goofing

With the negatives removed, it reads : With teaching goes goofing. A good exercise at that. But why compromise on quality? The learned article from the reputed scholar, Dr. S.K. Verma with the above caption (*University News* May 24, 1993) makes one sit up. An English teacher, for that matter any teacher, to be professionally competent, must swear by excellence in his chosen subject. He isn't an Alice in the Blunderland. The howlers galore of quite a few of us should be progressively minimised and ultimately eliminated so that the students are exposed to what is chaste in expres-

sion and thought. Massive operations and package programmes can hardly brook the massacre of all that is best in educational endeavours. There is no learning without an exposure. Mr. J.A. Bright and Mr. G.P. Mc Gregor are very categorical : '... when children learn a language, they do not learn from the mistakes; they learn their mistakes.' If teaching is not to be cheating, goofing must be given a go by.

S. Abdul Kareem,
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Hubli - 580 020.

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Himachal Pradesh University,
Shimla-171 005.

JOURNALS RECEIVED

1. *Indo-British Review : A Journal of History*. Quarterly. Published by the Indo British Historical Society, 21 Rajaram Mehta Avenue, Madras-600029. Annual subscription Rs. 500/-.

Now in its 20th Volume, the Indo British Review is the most authentic journal on Indian History. Published by the Indo-British Historical Society with the specific objective of stimulating the study of Indian History in India and abroad, the Review publishes articles of contemporary and historical interest pertaining to Indian history with special emphasis on the Indo-British period. Each issue is devoted to a particular theme and has an array of eminent contributors writing authoritatively on their subject. Membership of Indo-British Historical Society is mandatory for those subscribing to the journal which could be sought by paying Rs. 500/- as entrance and registration fee. In-depth signed book reviews of titles of historical interest are included.

2. *Marketman*. Half Yearly. Published by Institute of Management and Marketing Studies, Link Road, Cuttack-753012. Annual subscription Rs. 40/-.

The inaugural number, June to December 1992, covers a whole spectrum of topics from the behavioural and technical competencies and strategic alliance through shipping transport, mutual funds, organisational climate to stock market efficiency. Contributors hail from Management Institutes throughout the country and include M L Agrawal, Francis Cherunilam, S C Sahoo, O P Gupta, etc. All the contributors are fully documented.

3. *Journal of Physical Education & Sports Sciences*. Bi-annual. Published by the Sports Authority of India, Lakshmibai National

College of Physical Education, Gwalior-474002. Annual subscription Rs. 30/-.

The journal seeks to provide back up theoretical inputs to sports as also provide a forum for sharing of experiences. The contributors hail from countries all over the globe notably Austria, USA, Canada, Nigeria, etc. Volume IV Number II, July 1992 issue covers topics as Athletes' identification of undesirable behaviours of their coach, Kinanthropometric variance of different intensity running events of Delhi University female athletes, Effects of fatigue on the technique of elite olympic speed skaters, Body composition measure and total plasma protein in female athletes.

4. *Journal of All India Association for Educational Research*. Quar-

terly. Published by the All India Association for Educational Research, 106/1502, Acharya Vihar, Bhubaneswar-751013. Annual subscription Rs. 40/-.

Started as a bi-annual journal in February 1989, it was converted into a quarterly effective March 1990. The journal seeks to provide a forum for discussion of problems related to educational research, dissemination of findings on educational research, and sharing of research experiences. The present issue combines four issues i.e. Volume III, Number 3 & 4 and Volume IV, Numbers 1 & 2, Sept. 1991 to June 1992. This special issue includes the papers presented at the 4th Annual Conference of the All India Association for Educational Research as also a report of the Conference.

Indian Institute of Advanced Study

Rashtrapati Nivas, Shimla-171005

Advertisement No. 5/93

Applications are invited for the following posts

1 Stenographer (English) - 1 for Scheduled Caste only

Pay Scale Rs. 1400-40-1600-50-2300-EB-60-2600

Qualifications Bachelor's degree from a recognised University with a minimum shorthand and typing speed of 100/40 w.p.m. respectively.

Age Limit 18 to 28 years (relaxable upto 5 years)

2 Junior Stenographer (English) - 1 for Scheduled Tribe only

Pay Scale Rs. 1200-30-1560-EB-40-2040

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Age Limit 18 to 28 years (relaxable upto 5 years)

The posts are permanent and carry DA and CA at Central Government rates. Residential accommodation shall be provided in the campus of the Institute.

Applications on plain paper giving name, date of birth, address, educational qualifications and experience and other relevant particulars supported by attested copies of certificates and testimonials should reach the Dy. Secretary (Admn.), Indian Institute of Advanced Study, Rashtrapati Nivas, Shimla-171005 within fifteen days from the date of publication of this advertisement. A certificate from the competent authority that the candidate belongs to Scheduled Caste/Scheduled Tribe community should also be enclosed. Candidates already in service must apply through proper channel. 2nd class rail fare/ordinary bus fare by shortest route shall be paid to the candidates called for interview.

dsvp 903(3) 93

RESEARCH IN PROGRESS

A list of research scholars registered for doctoral degrees in Indian Universities

SOCIAL SCIENCES

Library & Information Science

1. Abbas Khan, Ashraf Ahmed. Citation analysis of the Doctoral Dissertations submitted to the Shivaji University, Kolhapur in pure sciences, 1962-1992. Shivaji. Dr SR Genjal, Prof and Head, Department of Library and Information Science, Gulbarga University, Gulbarga.

Psychology

1. George, Selomey. Impact of Psycho-educational programme in the management of Schizophrenic patients. Kerala. Dr K A Kumar, Prof and Head, Department of Psychiatry, Medical College, Thiruvananthapuram.

Sociology

1. Fakhroddin Ahmed. Bunker sehkari samitlyon ka samajik arthik sarvekshan. BHU. Prof Mohd Salim, Department of Sociology, Banaras Hindu University, Varanasi

2. Jan, Saroj. Cement udyog mein karyarat shramikon ka samajhastriya adhyayan : Diamond Cement Udyog, Naraingharh ke vishesh sandarbh mein. H S Gour. Dr Shrnath Sharma, Department of Sociology, Dr Harisingh Gour Vishwavidyalaya, Sagar

3. Rajalakshmi, T C. Child mortality and reproductive health in Kerala. Kerala. Dr P S Nair, Addl Director, Population Research Centre, University of Kerala, Kanavattom.

4. Sasikumaran, Thampy N. Social change and the changing status of outcaste. Kerala. Dr K Thulasiedharan Pillai, Lakshmi Bhavan, Uthum Nagar, Monvila, Pangappara, P O, Thiruvananthapuram.

Political Science

1. Ramesh Kumar. Nationality question in India : A study of Punjab. HP. Dr Gopal Singh, Department of Political Science, Himachal Pradesh University, Shimla.

Economics

1. Mainvannan, S. Agricultural and rural development through credit agencies and its future trends. Pondicherry. Dr A M S Ramasamy, Reader and Coordinator, Centre for Futures Studies, Pondicherry University, Pondicherry

2. Pangannavar, Arjun Yallappa. A critical appraisal of changes in economic and social living conditions of Bedars' community in North Bombay-Karnatak region of the Karnatak State. Shivaji. Dr T G Nak, Department of Economics, D D Shinde Sarkar College, Vidyaseth High School, Kolhapur

Education

1. Chaudhary, C L. Gandhi Vidyapith Vedchhi : Ek vivechanatmak abhyas. S Gujarat. Dr Ummed Singh, Department of Education, South Gujarat University, Surat.

2. Desai, Bharat D. Razat dwara Gujarati bhasha shikshan : Ek anveshan. S Gujarat. Dr Ummed Singh, Department of Education, South Gujarat University, Surat.

3. Padvi, Suresh C. A study of the expansion and development of primary education in the District Dangs after independence. S Gujarat. Dr Ummed Singh, Department of Education, South Gujarat University, Surat.

Commerce

1. Rajibakumar, S. Marketing management of the SSI sector in Kerala. Kerala. Dr M Sengadharan, Prof, Department of Commerce, University of Kerala, Trivandrum.

HUMANITIES

Philosophy

1. Kothari, Ajay Kumar Pukhray. The concept of divinity with special reference to Jainism. BHU. Dr M R Mehta, Department of Philosophy and Religion, Banaras Hindu University, Varanasi.

Language & Literature

Sanskrit

1. Madhulika. The pakadarpans of King Nala : A critical study. BIU. Dr S K Dixit, Department of Rasa Shastra, Banaras Hindu University, Varanasi.

2. Pandey, Vijay Kumar. Sanskrit vangmaya mein Kartikeya Charitra ka vikas. HS Gour. Dr Bal Shastri, Department of Sanskrit, Dr Harisingh Gour Vishwavidyalaya, Sagar

3. Soni, Shashi Prabha. Gangavatan Mahakavya ka kavyashastriya adhyayan. HS Gour. Dr Asha Sarvate, Department of Sanskrit, Dr Harisingh Gour Vishwavidyalaya, Sagar.

Hindi

1. Pandey, Ram Sinhasan. Hindi ke mahila kathakaron ke nari patra evam unka samajik sandarbh. BIU. Dr N Rai, Department of Hindi, Banaras Hindu University, Varanasi

Tamil

1. Lekshmy, S. A critical study of Prof S Valyapuri Pillai's works with special reference to kavyakalam. Kerala. Dr K Kumalam Pillai, Prof, Department of Tamil, University College, University of Kerala, Thiruvananthapuram

2. Rema Devi, R. Sivasankari's novels : A critical study. Kerala. Dr K Kumalam Pillai, Prof, Department of Tamil, University College, University of Kerala, Thiruvananthapuram

Malayalam

1. Ajithakuman, K. Grammar of poetic languages : A study based on the poems of Valloppilli Sreedhara Menon. Kerala. Dr P Somasekharan Nair, Editor, Department of Malayalam Lexicon, University of Kerala, Thiruvananthapuram.

2. Chandrasekharan Nair, P N. Bheekarathayute savishkaram Malayala kavithayil. Kerala. Dr K Rama Warner, 34, Ampalanagar, Kowdiar, P O, Thiruvananthapuram.

3. Dominic, P A. C N Sreekanthan Nayarute Ramayana natyakangal — oru patanam. Kerala. Dr B K Krishnan Nair, Lecturer, Department of Malayalam, D B College, Sasthamcottah.

4. Joseph, Preethi. Tribal life as reflected in Malayalam novels. Kerala. Dr V S Ramakrishnan, Reader, Department of Malayalam, University of Kerala, Kanavattom

5. Suresh, R. Nature images in modern Malayalam poetry. Kerala. Dr N Mukundan, Reader, Department of Malayalam, University of Kerala, Kanavattom

6. Vikraman, C P. The social structure and the dialect of Kuravans. Kerala. Dr P Somasekharan Nair, Editor, Department of Malayalam Lexicon, University of Kerala, Thiruvananthapuram

History

1. Agarwal, Anupama. Uttar Pradesh ke madhyakalin durg. BIU. Dr S K Srivastava, Department of Museology, Banaras Hindu University, Varanasi.

2. Sujeci Nayan. A type-techno study of Harappa pottery. BIU. Dr V Jayaswal, Department of Ancient Indian History Culture and Archaeology, Banaras Hindu University, Varanasi.

THESES OF THE MONTH

A list of doctoral theses accepted by Indian Universities

SOCIAL SCIENCES

Library & Information Science

1. Chandra Hanah. Rural information system : Design and development. Jiwaji. Dr S M Tripathi, Dean, Faculty of Arts and Prof and Head, Department of Library and Information Science, Jiwaji University, Gwalior.

2. Laxman Rao, N Planning and implementation of automated circulation system for Osmania University Library System Osmania.

Psychology

1 Basu, Devendar Mohini. A comparative study of Hindu grihashtas and sanyasis on Mechha vedian personality traits and some other psychosocial variables. Gurukula. Dr O P Mishra, Prof, Department of Psychology, Ved and Arts College, Haridwar

2 Joshi, Shobhana. A study of the mental health of the visually handicapped sports men. Gurukula. Dr O P Mishra, Prof, Department of Psychology, Ved and Arts College, Haridwar

3 Joshi, Veena. A comparison of congruence between personality and occupation. SNDT. Dr P S Kale, SNDT Arts and Commerce College for Women, Bombay

4 Manju Rani. Valvahi samayojan evam sambandhit samajikchar. Hindu aur Musalmanon ka tulnatmak adhyayan Gurukula. Dr O P Mishra, Prof, Department of Psychology, Ved and Arts College, Haridwar

5 Rojiwadia, R K. The personality and facial deformity. A psychological study Saurashtra. Dr M R Kothari

Sociology

1 Arvind Pal. Drishtiheenon ke samajik arthik samasyayon ka samajshastriya adhyayan. Indore Jile ke vishesh sandarbh mein. Devi Ahilya. Dr (Mrs) S Pothan, Department of Sociology, Govt. New Girls' Postgraduate College, Indore.

2 Pendharkar, Sushma. Basaron mein samajik gatisheelta. Gatisheelta ke samaj shashtra mein ek adhyayan, Jabalpur Jile ke vishesh sandarbh mein Durgawati. Dr C S S Thakur, Head, Department of Sociology, Rani Durgawati Vishwavidyalaya, Jabalpur

3 Thassu, Rita. Murena Jile ke badalte huye janankiya pratiroop ka ek samajshastriya vishleshan. Jiwaji. Dr P V S Tomar, Prof and Head, Department of Sociology, M L B Arts and Commerce College, Gwalior and Dr J P Singh, Department of Economics, Ambah College, Ambah

Social Anthropology

1 Saileela. Modern Nutritional profile of woman in Visakhapatnam : An analysis. Andhra

Social Work

1 Sujatha Rita. Community care. A qualitative study. Bangalore

Dr R S Bati, Addl Prof, Department of Psychiatric Social Work, National Institutes of Mental Health and Neuro Sciences, Bangalore.

Political Science

1. Khan, Ihsat. Madhya Pradesh ke Muslim mahilayon mein samajik evam rajnitik chetna. Devi Ahilya. Dr K L Noha, Mission Hospital Complex, Indore.

2. Rakesh Rajan. Constitutional Amendments in India and Constitutionalism : The first four decades. Bihar. Dr D N Mallik, Prof and Head, Department of Political Science, University of Bihar, Muzaffarpur.

3. Shukla, Radha Vallabh. Gwalior Nagar mein pramukh rajnitik dal : Tulnatmak adhyayan. Jiwaji. Dr J V Bhargava, Kamla Sadan, Lashkar, Gwalior.

4. Singere, Sandhya. Nagariya rajniti aur prashasan : Raipur Nagar ke sandarbh mein. Ravishankar. Dr R N Mitra, Prof (Retd), Near Santoshu Mandir, Raja Talab, Raipur.

5 Singh, Sapam Rajendra. The Janata Government and the world affairs : A study of India's foreign policy under the Janata Government. Manipur. Prof M Horam, Department of Political Science, Manipur University, Imphal

6 Sinha, Anupama. Adivasiyon mein rajnitik sambhagita : Pall Vikas Khand ka vyaktiparak adhyayan. Ghasidas. Dr H S Dwivedi, Theosophical Lodge, Gwalior

Economics

1 Agrawal, Alka. Prayatan udyog ke utpadakata pravritti tatha prbandha kushalta : Madhya Pradesh Rajya Prayatan Vikas Nigam ka ek vishleshta adhyayan. Durgawati. Dr Manhoar Pandit, Prof and Head, Department of Economics, Rani Durgawati Vishwavidyalaya, Jabalpur

2. Chandrana, H H. The pattern and the causes of rural poverty. Saurashtra. Dr V H Joshi, Prof and Head, Department of Economics, Saurashtra University, Rajkot.

3 Das, Yogendra Lal. Impact of institutional credit on tribal development. A case study of Jhink Pali Block in Singhbhum District. Magadh

4 George, A I. A critical study of the impact of institutional finance on agriculture in selected villages of Ernakulam Revenue District. CUST. Dr V Karunakaran, Visiting Prof (Retd) and Dr K C Sankaranarayana, Prof and Head, Department of Applied Economics, Cochun University of Science and Technology, Kochu.

5 Jayaraj, M. Integrated Rural Development Programme and weaker sections : A case study of scheduled castes and scheduled tribes in Anantpur District. Krishnadevaraya. Prof N Narayana, Department of Economics, Sri Krishnadevaraya University College, Anantpur

6 Padma Latha, K. Cropping pattern in Telangana Region : A case study Kakatiya. Prof P Ramaiah, Director, Dr B R Ambedkar Open University, Hyderabad

7. Pawar, Nagorao Dhanaji. Production and marketing of farm products in Marathwada Region : An economic analysis. Marathwada Agri. Dr B W Ashturkar, Head, Department of Agricultural Economics, Marathwada Agricultural University, Parbhani.

8. Shukla, Keshav Prasad. Koyala udyog ke shramikon ke majdoori, rajgar evam jeevan star ka anushthan : Hasdev Koyala Khetra ke sandarbh mein. Chasidas. Dr (Smt) Vidya Tamaskar, C M D College, Bilaspur.

9. Sunder Rao, B. Wage issues and migration in Andhra Pradesh: A case study. Kakatiya. Dr (Mrs) N Vijaya, Reader, Department of Economics, Kakatiya University, Warangal

10. Vyas, Sooma. Institutional changes and social justice in South-West Madhya Pradesh. Devi Ahilya. Dr (Mrs) Nirupama Nagar, Department of Economics, P M B Gujarati Arts and Law College, Indore

11. Wadia, Hilla. Role of All-India term-lending institutions in the industrial development of backward areas. SNDT Dr J D Mehta, 204-205/B II O, Yogi Nagar, Eksar Road, Borivali West, Bombay

Law

1. Ashwin Kumar. The law and role of foreign trade marks in India. Delhi.

Education

1. Bhatt, Pradyuman Rai Vrajil. Development and validation of criterion referenced test on figure of speech in Gujarati language. Bhavnagar Dr (Miss) D J Modi, Prof and Head, Department of Education, Bhavnagar University, Bhavnagar

2. Joginder Singh. Technology transfer model : An analysis of linkages objectives of investigation. IIAU.

3. Sammaiah, E. A study of the hurdles in the implementation of welfare measures provided in order to equalise educational opportunities to scheduled caste students in A P with special reference to Telangana. Osmania.

4. Samah, Sarat Chandra. A critical appraisal of facilities available for science teaching in the secondary schools of Assam. Gauhati. Dr (Mrs) N Sarma, Reader, Department of Education, Gauhati University, Guwahati.

5. Tripathi, Surekha. Prayaveksht adhyayan pratiman ke pathan bodh evam swatva bodh per prabhav ka samajik arthik sthiti, ling evam buddhi ke sandarbh mein adhyayan. Devi Ahilya. Dr (Mrs) Shobha Vaidya, Department of Education, Devi Ahilya Vishwavidyalaya, Indore.

Commerce

1. Agarwal, R S. Disclosure practices of public sector companies in India. Saurashtra. Dr N M Khandelwal, Prof and Head, Department of Commerce, Saurashtra University, Rajkot.

2. Aggarwal, Rama. Rights issues in India : An analysis and appraisal. Delhi.

3. Arora, Haryest Singh. Style of leadership and organisation effectiveness in J & K State Road Transport Corporation. Jammu Dr N S Gupta, Prof and Head, Department of Commerce, University of Jammu, Jammu

4. Barbara, Raghunath. Marketing of Assam Tea with special reference to Dibrugarh District. Dibrugarh. Dr A K Sarma, Prof and Head (Retd), Department of Business Administration, Gauhati University,

Guwahati and Prof A R M Rahman, Prof and Head, Department of Commerce, Dibrugarh University, Dibrugarh.

5. Danak, D J. Management of coast revenue in city bus transport undertakings in India. Saurashtra. Dr N M Khandelwal, Prof and Head, Department of Commerce, Saurashtra University, Rajkot.

6. Das, Prabhakari. Growth paths of some selected firms in Indian industries with context of diversification. Calcutta

7. Goyal, Madan Mohan. Dividend impact on security price behaviour : A test of market efficiency. Delhi

8. Kamakshwar Rao, S. Job satisfaction and work motivation among supervisory and managerial personnel : A study of state enterprises of A P Kakatiya. Prof A Shankaraiah, Department of Commerce and Business Management, Kakatiya University, Warangal

9. Lakshminarasayanan, Panchapakesa. An analytical study of differential rate of interest scheme and its impact on beneficiaries. Nagpur. Dr Ram Kale, Director, P G Institute of Development Studies, Nagpur University, Nagpur

10. Praharaj, Srinath. Work motivation and quality of work-life : A study of Government executives in West Bengal in and around Calcutta. Calcutta

11. Tiwari, Kiran. Hoshangabad Sambhag mein jansankhya sanrachna evam parivar kalyan karyakram IIS Gour Dr S P Johari, Principal, Govt College, Balaghat

Home Science

1. Avvari, Jyothi. Effect of rationing public distribution system on energy consumption. SNDT Dr Shobha Udipi, Reader, Department of Food Science and Nutrition, S N D T Women's University, Bombay

2. Kadiyala, Subhadra. Hypoglycemic and hypolipidemic effect of rice-bran. SNDT Dr G Subbulakshmi, Head, Department of Food Science and Nutrition, S N D T Women's University, Bombay.

3. Khadse, Indira Bhanudas. Prathamik shateel balakanchya sharirik, bhashik va samajik vikascho tulnatmak adhyayan. Nagpur. Dr B V Nimkar, Reader, Department of Psychology and Dr Asha Nimkar, Reader, Department of Home Science, Nagpur University, Nagpur.

4. Ranganath, Malati. Energy balance of urban women. SNDT. Dr G Subbulakshmi, Head, Department of Food Science and Nutrition, S N D T Women's University, Bombay.

5. Satagopen, Kumudha. Profile of the beneficiaries of development of women and children in rural areas programme in the Union Territory of Pondicherry. Teresa. Dr Godavari Kamalanathan.

6. Sharma, Pushpa. A study of working mothers in relation to child care practices and role conflict. IIAU

7. Susheela, Annavi. Processing and evaluation of nutritive ready-to use foods suitable for farm families. Teresa. Dr Rajammal P Devadas, Vice Chancellor, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore.

Management

1. Jessica, V Mary. Performance of state financial corporations : A study of APSFC and KSFC. Osmania.

2. Narahari, G. Andhra Pradesh State level public enterprises and Comptroller and Auditor General of India : A study of interface relationship. Osmania

CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be contacted
July 19-30, 1993	Training Programme on Abstracting & Indexing	To cover principles of abstracting, indexing, searching and information technologies	Small Enterprises National Documentation Centre, Hyderabad	Mrs. K. Subhashini Course Director NISNET, Yousufguda Hyderabad-500 045
September 13-22, 1993	Computer Application in Social Sciences	To orient the social science researchers to fundamentals of computer, computer processing, foundation of data processing, quantification method and use of SPSS	Centre for Social Studies, Surat	Vimal Trivedi Course Director Centre for Social Studies, South Gujarat University Campus, Udina-Magadalla Road, Surat-395 007
December 14-16, 1993	1993 Annual Conference of the Society for Research into Higher Education	Theme Governments and the Higher Education Curriculum: Evolving Partnerships	Society for Research into Higher Education, London	Prof. Tony Becker, EDB, University of Sussex, Falmer, Brighton BN 1 9 RG
February 10-11, 1994	National Symposium on Advances in Veterinary Research	Theme Animal Health and Production	Indian Association for the Advancement of Veterinary Research, Bareilly (U.P.)	Dr T.N. Jaiswal, Head, Division of Standardisation, Indian Veterinary Research Institute, Izalnagar-243 122

Important Books on Population

- **India's Population: Heading Towards A Billion (An Analysis of 1991 Census Provisional Results)/ Mahendra K. Premi**
This book presents a detailed analysis of the 1991 census. Discusses the nature of demographic transition, pattern of urbanisation and status of family planning programme, makes some radical suggestions.
Rs. 60 (P.B.)
- **Literacy for All by 2001: Strategies at District Level (Based on 1991 Census Results)/ K.G. Jolly**
An attempt to analyse the 1991-Census results, particularly with reference to the level of literacy at district level, useful for district-level planning
Rs. 90 (P.B.)
- **Population of India: 1991 Census Results and Methodology/Ashish Bose**
A commentary on the first results of the 1991 census which were released by the Census Commission on

March 25, 1991 along with a set of simplified key tables
Rs. 50 (P.B.)

- **Population Planning in India: Policy Issues and Research Priorities/Ashish Bose & P.B. Desai (Ed.)**
The book makes a modest attempt to reflect the perception of individual scholar & administrators in regard a number of policy issues in the Indian context.
Rs. 170
- **Population Policy/B.L. Raina**
The book contains rich & varied material giving an up-to-date account of the evolution of population policies & programmes of the Govt. of India. Those who want to have a first hand account in a historical perspective of the population policies
Rs. 125

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development, design of bioreactors, computer simulation studies, genetic engineering.

Job description : In this position the incumbent will work under the supervision of senior scientists for ongoing projects of the Institute and carry out related activities assigned to them from time to time.

General Conditions :

Upper age limit is relaxable by five years if a candidate belongs to Scheduled Caste/Scheduled Tribes.

For all posts of Scientists, the candidates are expected to have a consistently good academic record with evidence or potential for research

The number of vacancies mentioned in each category is provisional and may vary at the time of selection. The Scientists posts are contractual

Persons desirous to apply for more than one post, may submit separate application for each post

Pay and allowances are as per Central Govt Rules as applicable at Chandigarh

Persons working in Govt. Deptt/Under-taking/Autonomous Bodies should send their applications through proper channel

Application Forms for all the above mentioned posts (excepting post No IV viz. Technician) can be obtained free of cost from the Controller of Administration, Institute of Microbial Technology, Post Box No 1304, Sector 39-A, Chandigarh-160014. In case application form is desired by post, the request indicating number of the advertisement, name of the post applied for, post no, etc etc, should be accompanied by a self-addressed envelope of 27 cms x 10 cms bearing postage stamp of Rs 2.00. Complete application in the prescribed form together with non-refundable application fee of Rs 8.00 (no fee in case of Scheduled Caste/Scheduled Tribe/Physically Handicapped candidates) by means of crossed Indian Postal Order drawn in favour of Director, Institute of Microbial Technology, Chandigarh alongwith attested copies of testimonials/certificates should reach the Controller of Administration, Institute of Microbial Technology, Post Box No 1304, Sector 39-A, Chandigarh-160014 latest by 20.08.1993. The post (viz. Post No. I(1), II(1) etc etc.) applied for should be clearly written in the application, failing which the application will not be considered. Incomplete applications including those received without attested copies of certificates, testimonials etc. and/or those received after the due date are liable to be rejected.

Application for the post of Technician Gr II(1) may be submitted on plain paper indicating (1) Name (2) Father's Name (3) Date of Birth (4) Address for Communication (5) Educational Qualification (6) Experience (7)

Whether belongs to SC/ST (8) Whether you have any blood relation in IMTECH/CSIR, if so, give details, alongwith the recent passport size photograph, duly accompanied by attested copies of certificates, testimonials, etc

Canvassing in any form and/or bringing out any influence, political or otherwise, will be treated as a disqualification for the post

Merely fulfilling the minimum prescribed qualifications and experience will not vest any right on a candidate for being called for inter-

view. Since it may not be possible to call all the candidates for interview, the applications will be shortlisted for the purpose and the decision of a duly constituted Screening Committee will be final. The Institute will not entertain any correspondence in this respect.

A lower standard of suitability consistent with efficiency will be applied in respect of SC/ST candidates

"INTERIM ENQUIRY WILL NOT BE ATTENDED TO"

NORTH EASTERN HILL UNIVERSITY SHILLONG

ADMISSION NOTICE

Applications for admission for the session commencing from July, 1993 in the following courses are invited in the prescribed form

The application form can be obtained in person from the office of the Dean, North Eastern Hill University, School of Agricultural Sciences & Rural Development, Medziphema, Nagaland during the office hours on payment of Rs 5/- (Rupees Five) only in cash

The application form can also be obtained from the above office by post on payment of Rs 5/- in the form of Bank Draft, payable to "North Eastern Hill University", Shillong along with a self addressed stamped (Rs 1/-) envelope.

The last date for issue of admission form is 20th July, 1993

- 1 B.Sc. (Ag) — Four year course
- 2 M.Sc. (Ag) Horticulture — Two year course
- 3 M.Sc. (Ag.) *Soil Conservation —do-

* The University reserves the right for taking or not taking admission into the Deptt. of Soil Conservation

Eligibility :

1 For admission to the B.Sc. (Ag) course a candidate must have passed Pre-University (Science) or its equivalence with Mathematics or Biology, or Pre-University or equivalent in Agriculture stream with a minimum marks of 50% in aggregate (excluding additional papers) relaxable by 5% in case of Scheduled Caste/Scheduled Tribe candidates

2 M.Sc. (Ag.) programme in various disciplines shall be open to those who have passed B.Sc. (Ag) of this University or an equivalent degree from recognised Universities/Institutions with a minimum 60% of marks or equivalent overall grade average. Students desirous of seeking admission in Soil Conservation must have secured 60% marks in all the relevant courses of Soil Conservation which will consist of Soil Science, Agricultural Engineering and Agronomy. This applies to all categories of candidates. For admission under reserved SC/ST category, a relaxation of 5% marks in total aggregate will be given to candidates who are product of this School and who are inservice candidates and have been in service for a minimum of three years. However, in no case this relaxation will exceed five percent.

Distribution of seats will be as follows :

Sl No.	State	In B.Sc. (Ag.)	In M.Sc. (Ag.)
			1 Horticulture 2 Soil Conservation
1	Arunachal Pradesh	6	60% reserved for SC/ST candidates (3 out of 5)
2	Mizoram	8	
3	Meghalaya	9	
4	Manipur	2	20% for open (1 out of 5)
5	Nagaland	12	
6	Assam	2	20% for University quota (1 out of 5)
7	Tripura	5	
8	Open quota	6	
9	University quota	5	
Total		55	5 in each discipline. University reserves the right to decrease the number of seats.

Selection of candidates for M.Sc. (Ag.) is done purely on the basis of merit, other qualifications and experience. The candidates desiring (all categories) admission in M.Sc. (Ag.) may send their applications to the Dean, NEHU, School of Agricultural Sciences & Rural Development, Medziphema-797106, Nagaland.

For seats allotted to various states for B.Sc. (Ag.) degree programme, the respective state authorities shall send their nominations having fulfilled the prescribed conditions to the Dean, NEHU, School of Agricultural Sciences & Rural Development, Medziphema-797106, Nagaland. Application against the University quota should be sent to the undersigned.

Last date for submission of applications.

The last date for submission of applications to the Dean, NEHU, SASARD, Medziphema-797106, Nagaland or to the undersigned whichever is applicable is 25th July, 1993.

Last date of admission:

The last date for taking admission in B.Sc. (Ag.) first year, first semester is 23.8.1993.

A. Patton
REGISTRAR

THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA

Notification No ADE/B of 1993-94

Applications are invited for the posts of Professor and Lecturer in Journalism and Communication in the Scale of Rs 4500-150-5700-200-7300 and Rs 2200-75-2800-100-4000 in the Faculty of Journalism and Communication in prescribed forms, which alongwith details about qualifications etc. can be obtained from the University Office from 23.6.93 to 13.7.93 on any working day by sending a request to the Registrar, M.S. University of Baroda, Vadodara-390002, alongwith a self addressed envelope of size 30 cms x 12 cms accompanied with a Demand Draft only, drawn in favour of the Registrar, M.S. University of Baroda of Rs 50.00 (Rs 15.00 for members of Scheduled Caste and Scheduled Tribe on production of caste certificate) or on payment of cash for the same during working days only between 11.00 a.m. to 2.00 p.m.

The application forms duly completed in all respects alongwith necessary enclosures should reach the Registrar, M.S. University of Baroda, Vadodara-390002 on or before 23.7.93.

Vadodara
Date: 18.6.93

D.P. Chhaya
REGISTRAR

PONDICHERRY ENGINEERING COLLEGE (Sponsored by Government of Pondicherry) PILLAICHAVADY, PONDICHERRY-605104.

No. PEC/AI/Recruit/93

Dt. 24-6-1993

NOTIFICATION

Applications are invited from qualified candidates for the following vacancies:

Sl. No.	Name of the post	No. of Vacancies	Scale of pay
1.	Professor 6		
	Civil Engineering	1	Rs 4500-150-5700-200-7300
	Mechanical Engineering	1	
	Electronics and Communication Engineering	1	
	Computer Science & Engineering	2	
	Physics	1	
2.	Assistant Professor 5		
	Mechanical Engineering	1	Rs 3700-125-4950-150-5700
	Electronics and Communication Engineering	1	
	Computer Science & Engineering	2	
	Physics	1	
3.	Lecturer 14		
	Civil Engineering	1	(SC 2, ST 2) } Rs 2200-75-2800-100-4000 (SC 2, ST.1) } (ST 1) } (SC 1, ST 1) }
	Mechanical Engineering	5	
	Electronics and Communication Engineering	3	
	Computer Science & Engineering	3	
	Physics	2	
4.	Senior Instructor 2		
	Computer science & Engineering	1	(SC) } Rs. 2000-60-2300-EB-75-3200
	Physics	1	

Qualification and Experience:

(i) For Professors and Assistant Professors posts As prescribed by AICTE

(ii) For Lecturers: First class Master's degree in appropriate branch of engineering/Technology or First Class Master's degree with Ph.D. in appropriate branch of study in the case of teaching posts in Humanities and Sciences.

(iii) For Senior Instructor: First Class Diploma in the concerned branch of engineering with minimum professional experience of atleast 8 years in a similar institution or First class Master's Degree in the concerned Branch of sciences with atleast two years of experience in teaching.

Note SC candidates may apply against ST vacancy and vice-versa

Further details on qualifications, experience, field of specialisation in the concerned branch etc., will be supplied alongwith the application form, which may be obtained by addressing to Principal, Pondicherry Engineering College, Pondicherry - 605 104, with a Demand Draft for Rs 10/- (Rs 3/- for SC/ST) drawn in favour of Principal, Pondicherry Engineering college with a self-addressed stamped envelope of Rs. 5/- of 23 x 10 cm, superscribed "Requisition for the application form for the post of ". The last date for issue and receipt of filled in application form is 30-7-1993. Separate application form shall be sent for more than one post. Indian nationals working abroad may apply on plain paper, with the prescribed fee of Rs 50/-.

Prof. P. Purushothama Raj
PRINCIPAL

INDIAN SCHOOL OF MINES

Dhanbad - 826 004
(Deemed to be a University)

No. PR/DAR/JRF/SRF/RA/93

Indian School of Mines, Dhanbad intends to select JRFs in various disciplines of Applied Geology/Applied Geophysics/Fuel and Mineral Engineering/Electronics and Instrumentation/Engineering and Mining Machinery/Humanities and Social Sciences/Industrial Engineering and Management/Mining Engineering/Petroleum Engineering/Applied Physics/Applied Chemistry/Applied Mathematics/Centre of Mine Mechanisation/Centre of Mining Environment.

It has been decided that NET/GATE qualified candidates with appropriate subjects pertaining to above disciplines may apply on plain paper at any time in a year giving name, address, date of birth, educational qualifications (with attested copies of certificates) and GATE/NET score card (with attested copies of GATE/NET score card), address for communication etc to the respective Heads of Departments/Centres for Junior Research Fellow (JRF) vacancies only Interviews will be held in the respective departments every two months i.e on August 7, 1993, October 9, 1993 (October 2 being holiday), December 4, 1993, February 5, 1994, April 2, 1994 and June 4, 1994 Details of the projects and qualifications required may be obtained from the respective Heads of the Departments.

Candidates will not be paid any Railway Fare for the Interview

REGISTRAR (ACTG)

MOTHER TERESA WOMEN'S UNIVERSITY

MADRAS - 600 032

NOTIFICATION NO. 78

Applications in prescribed form are invited from Women Candidates for admission to the following courses through **Correspondence**

S.No.	Course	Eligibility	Cost of Application
1.	M A. Women's Studies - 2 Years	Any Graduate of a recognised University with a minimum of 50%	40.00
2.	M A. History - 2 years		40 00
3.	P G. Diploma in Computer Applications 1 Year		40 00
4.	M Ed. - 1 Year	Bachelor's Degree in Education of a recognised University with a minimum of 50%	40.00

Applications can be had from the Registrar, Mother Teresa Women's University, 13, Race Course Road, Guindy, Madras-32 on requisition accompanied by a State Bank Demand Draft for the amount prescribed, drawn in favour of the Registrar, Mother Teresa Women's University, Madras and a self addressed stamped envelope to the value of Rs. 3/-.

Last date for receipt of filled in application is 21.7.1993

REGISTRAR

**Government of India
Department of Science & Technology
(NSTMIS Division)**

ACADEMIC SECTOR SURVEY ON S&T MANPOWER AND EXPENDITURE

The Department of Science and Technology (DST), Government of India undertakes National Survey regularly to collect data on Research and Development (R&D) activities in all R&D institutions under Central Government, State Governments and Industry, except Academic Sector. A number of analytical reports based on the data thus collected are published which enjoy wide circulation and appreciation.

Academic sector being one of the major performers of research, it is vital to get reliable information on the number of personnel engaged in research in Science & Technology (S&T) faculty and the expenditure on R&D in S&T faculty. It is therefore proposed to collect the least amount but most essential data from all Universities/Deemed Universities/ Institutes of National Importance dealing with S&T activities. Questionnaires have been already mailed to Vice-Chancellors of Universities or Directors of Deemed Universities/ Institutes of National Importance as well as to their Registrars. The timely publication of the report, which would greatly assist S&T Planning, is entirely dependent on the receipt of requisite information from these academic institutions well in time.

However, through this medium — 'University News', Department of Science and Technology, earnestly appeal to the concerned authorities of all the institutions to kindly furnish the details at the earliest. In case the questionnaires are not received by any University/Institution, the following officers may please be contacted .

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